THE

LECTURES

DELIVERED BEFORE THE

AMERICAN INSTITUTE OF INSTRUCTION.

AT

HARTFORD, AUGUST, 1845,

INCLUDING

THE JOURNAL OF PROCEEDINGS,

AND

A LIST OF THE OFFICERS.

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AMERICAN INSTITUTE OF INSTRUCTION.

SIXTEENTH ANNUAL MEETING.

JOURNAL OF PROCEEDINGS.

HARTFORD, AUGUST 21st, 1845.

IN the absence of the President, the Institute was called to order by Mr. Thayer, one of the Vice Presidents, at half past seven o'clock, P. M. Prayer was offered by the Rev. Mr. Edwards, after which, the Introductory Lecture was delivered by the Rev. Joel Hawes, of Hartford.

After the Lecture, the Institute adjourned to meet in the Lecture-Room of the First Parish Church, at 8½ o'clock, on Friday Morning.

Friday Morning, Aug. 22 — The Recording Secretary read that portion of the Records of the last year which pertained to the organization of the meeting.

Voted, To appoint a Committee of two to report the doings of the meetings. Professor E. A. Andrews and Mr. John Kingsbury, constituted this Committee.

Messrs. N. A. Eggleston and J. W. Skinner, were added to the Committee.

Messrs. Sherwin, Bishop, J. Abbott, A. Greenleaf, Fowle, Andrews and Green, were appointed a Committee of Nomination.

The Treasurer, W. D. Ticknor, Esq., being absent, Mr. P. Mackintosh, Jr. was appointed Treasurer *pro. tem.*

At 9¼ o'clock, the Institute listened to a Lecture from Mr. Wm. B. Fowle, "*On the best Method of Teaching Geography*," after which, the question, "*What is the best Course to adopt in regard to Whispering in School*," was discussed by Messrs. T. Sherwin, J. Abbott, and Professor Sanborn.

At eleven o'clock, a Lecture was delivered by G. S. Hillard, Esq., of Boston, "*On the Connection between Geography and History.*"

The Institute resolved to accept, with pleasure, the kind invitation of Mr. Turner to visit the Asylum for the Deaf and Dumb, and assigned Saturday, P. M., at four o'clock, for that purpose. Adjourned.

Afternoon, 3 o'clock, P. M. — The Institute listened to a Lecture on *Physiology*, by E. Jarvis, M. D., of Dorchester, after which the subject of *whispering* was resumed, and discussed by Messrs. Sanborn, Parish, F. Emerson, and others. Adjourned.

Evening, 7½ o'clock — The Institute listened to a Lecture "*On Education*," by Hon. Horace Mann, of Boston. Adjourned to meet at 9 o'clock.

HARTFORD, AUGUST 23, 1845.

The Recording Secretary read the doings of the previous meetings.

The Committee on Nomination reported a list of officers for the ensuing year, and the Institute proceeded immediately to ballot for the same.

Messrs. J. F. Bumstead, A. Greenleaf, and H. Barnard, were appointed a Committee to collect, count, and sort the votes.

The Committee reported that the following list of officers was unanimously elected.

PRESIDENT.

GEORGE B. EMERSON, Boston, Mass.

VICE PRESIDENTS.

Daniel Kimball, Needham, Mass.
Gideon F. Thayer, Boston, "
Jacob Abbott, New York.
Horace Mann, Boston, "
Peter Mackintosh, Jr., Boston, "
John Kingsbury, Providence, R. I.
Elipha White, John's Island, S. C.
Samuel Pettes, Boston, Mass.
Nehemiah Cleaveland, Brooklyn, N. Y.
Denison Olmstead, New Haven, Conn.
Benjamin Greenleaf, Bradford, Mass.
John A. Shaw, New Orleans.
Frederick Emerson, Boston, Mass.
Stephen C. Phillips, Salem, "
Cyrus Pierce, Newton, "
Wm. Russell, Medford, "
David Choate, Essex, "
Wm. B. Fowle, Boston, "
Cyrus Mason, New York City.
J. H. Agnew, Newark, N. J.
Calvin E. Stowe, Walnut Hills, Ohio.
Soloman Adams, Boston, Mass.
Thomas Sherwin, " "
Emery Washburn, Worcester, "

Henry Barnard, 2d, Hartford, Conn.
David P. Page, Albany, N. Y.
Daniel Leach, Roxbury, Mass.
Jason Whitman, Lexington, "
Asa Cummings, Portland, Me.
Joel Hawes, Hartford, Conn.
E. D. Sanborn, Hanover, N. H.
E. A. Andrews, New Britain, Conn.

RECORDING SECRETARY.

Wm. A. Shepard, Boston, Mass.

CORRESPONDING SECRETARIES.

Charles Brooks, Thomas Cushing, } Boston, Mass.

TREASURER.

William D. Ticknor, Boston, Mass.

CURATORS.

Josiah F. Bumstead, Boston.
Nathan Metcalf, "
Samuel S. Greene, "

CENSORS.

Charles K. Dillaway, Roxbury, Mass.
William J. Adams, Boston.
Joseph Hale Abbott, "

COUNCILLORS.

Alfred Greenleaf, Brooklyn, N. Y.
Nathan Bishop, Providence, R. I.
Luther Robinson, Boston.
Oliver Carlton, Salem, Mass.
Thomas A. Green, New Bedford, Mass.

Abraham Andrews, Boston.
Samuel J. May, Syracuse, N. Y.
Roger S. Howard, Newburyport, Mass.
William D. Swan, Boston.
Barnum Field, "
Charles Northend, Salem, Mass.

The subject of Whispering was again resumed. Messrs. Thomas, of New Haven, Mackintosh, of Boston, F. Emerson, of Boston, C. Pierce, of Newton, and Greenleaf of Brooklyn, took part in the discussion.

At 10 o'clock the Institute listened to a Lecture "*On the Duties of Examining Committees*," by Prof. E. D. Sanborn.

After a recess of five minutes, a Lecture was delivered by Prof. D. Olmstead, of New Haven, "*On the Idea of a Perfect Teacher.*"

On motion of Mr. Pierce, the Institute voted to bring its session to a close on Monday Evening.

The Institute *Voted*, To hold a meeting for discussion in the Evening, commencing at 7½ o'clock. Adjourned.

Afternoon, 2½ o'clock — A Lecture on "*Teachers' Institutes*," was delivered by Hon. Salem Town, of Aurora, N. Y.

After a recess of three minutes, the Institute came to order and listened to a Lecture on "*The Introduction of Vocal Music into Common Schools*," by A. N. Johnson, of Boston.

The subject of the Lecture was discussed by Messrs. Greenleaf, Tower, Bishop, and others. Adjourned to meet at 7½ o'clock.

The Institute met, according to adjournment, and voted to discuss the following question: "*In what way can Teachers best secure the Interest of the Parents in the Schools where their Children are Taught?*" Messrs. Parish, Tower, Mackintosh, Sanborn, Adams, Burgess, Fowle, Jackson, Greenleaf, Mann, and Pierce, took part in the discussion.

As the Institute was prevented, on account of the rain, from visiting the Asylum for the Deaf and Dumb, it was voted to assign Monday morning, at 8 o'clock, for that purpose. Adjourned to meet at 10 o'clock, on Monday Morning.

Monday Morning, August 25 — The Institute came to order at 10 o'clock. G. F. Thayer, of Boston, in the Chair.

Owing to the failure of some of the Lecturers, on motion of Mr. Barnard, the Institute voted to discuss the subject of "*The Organization of Schools for Cities, and other Populous Places.*"

Mr. Bishop, Superintendent of the public Schools of Providence, gave the plan of organization in that City.

On Motion of Wm. B. Fowle, the Institute voted to request Rev. Dr. Hawes to furnish a copy of his Lecture of Sunday Evening, on "*Female Education,*" for the volume.

Voted, That the Institute publish, for gratuitous distribution five thousand copies of the above Lecture.

Voted, That Wm. B. Fowle, and Wm. D. Ticknor, be a Committee to make the above request, and superintend the publication and distribution of the Lecture.

At half past eleven o'clock, the Institute listened to a Lecture, by F. A. Adams, of Byfield, on "*Intellectual Arithmetic.* Adjourned to meet at 3 o'clock, P. M.

At 3 o'clock, the Institute listened to a Lecture from Rev. Noah Porter, of Springfield, "*On the Training of Students for the University.*"

After a recess of fifteen minutes, the Institute resumed the discussion of the subject "*Organization of Schools in Cities and other Populous Places.*"

Mr. Fowle, of Boston, and Mr. Bishop, of Providence, participated in the discussion.

The following questions were then discussed: "*Why is English Grammar a dry Study?*" "*Why do a few Pupils in our Public Schools become good Grammarians?*"

Rev. Mr. Frazer of New York — late Principal of the Elizabeth Female Academy, Mississippi, — Wm. B. Fowle, of Boston, and G. F. Thayer, of Boston, spoke to these questions. Adjourned.

Evening, 7½ o'clock — The Institute met according to adjournment. Wm. B. Fowle in the Chair. The closing Lecture was delivered by Henry Barnard, Esq., of Hartford.

Mr. Thayer, of Boston, then offered the following Resolutions, which were unanimously adopted: —

Resolved, That, as the Rev. Dr. Hawes has offered the Institute an opportunity of having two valuable Addresses on the subject for the promotion of which this Association was formed, and has submitted for publication one of them, to which we had no claim, and has so constantly attended our meetings, for lectures and deliberations, he is entitled to special thanks and considerations.

Therefore, *Voted*, That the Rev. Dr. Hawes be, and he is hereby elected a Vice President of the American Institute of Instruction.

Resolved, That the thanks of the Institute be given to the Committee of Arrangements, by whose efforts the Lectures of the session have been secured; also to the Proprietors of the First Congregational Church, for the use of their place of worship and lecture-room for lectures and discussions. Also to the citizens of Hartford who have generously invited the members to the hospitalities of their families; and to the citizens generally, who have contributed to the interest of the session. Also to Prof. Jackson, who kindly invited the members of the Institute to visit the halls of Trinity College. Also to Messrs. Turner, Clerc, and Ray, who entertained the members of the Institute at the Asylum for the Deaf and Dumb, in explaining their methods of teaching, and the mode of conducting the affairs of the Institution. Also to the officers of the "Young Men's Institute,"

the "Natural History Society," and the "Connecticut Historical Society," for opening their rooms to the members of the Institute. Also to the Editors of the Newspapers who have reported, or otherwise noticed the meetings and doings of the Institute.

After some appropriate remarks by Mr. G. F. Thayer, who presided, for the most part, during the session, the meeting was brought to a close.

SAMUEL S. GREENE, *Rec. Sec'y.*

LECTURE I.

DIGNITY

OF THE

TEACHER'S OFFICE.

By JOEL HAWES.

Napoleon once said to Madame Campan; The old systems of education are good for nothing; what is wanted for the proper training of young persons in France? With keen discernment and great truth that intelligent and accomplished lady replied, in one word — *mothers.* This word struck the Emperor, and he exclaimed,— Behold an entire system of education! You must make mothers that know how to train their children. Fully acceding to the truth and importance of the sentiment intended to be conveyed in this language, I may be permitted to add; if I were asked, what is wanted in our country to secure the perpetuity of its institutions, and to pro-

mote, in the highest degree, the prosperity and happiness of the people, I would answer, not mothers only, but teachers, well qualified and faithful teachers of youth, dispersed through the land, and liberally and honorably sustained in their office. Sure I am that it will never be well with our country till this most important *desideratum* is realized; and whoever contributes, even in the humblest measure, to the attainment of so great a result, deserves to be honored as a friend of his country, and a benefactor of his race. I would willingly cast my mite into the common treasury of influences, designed to bring about this most needed consummation; and I know not how I can better do this, on the present occasion, than by inviting the attention of my audience to some considerations, designed to illustrate the *dignity of the teacher's office*. This subject seems to me as appropriate as any other I could select, viewed as introductory to the exercises, which are to follow in the succeeding sessions of the American Institute of Instruction at this its annual meeting; and though I may fail to add anything to what is already known, in regard to the details of teaching, it will, I hope, prove a useful service to magnify the office of teaching,—to hold it up in its true dignity and honorableness.

To the various useful occupations of life, we attach different degrees of honor and respect. He who cultivates the soil, and thus contributes to the means of human subsistence; he who devotes himself to the mechanic arts, or to manufactures and trade, and thus

multiplies our comforts and our luxuries; he who engages in the medical profession, and exerts his skill to heal our diseases; he who at the bar pleads the cause of the innocent, and vindicates the rights of the injured; and he who devotes himself to the affairs of state, and aids in making and administering the laws of his country,—each and all of these are usefully and honorably employed, and in the discharge of their respective duties deserve well of the community. But he who devotes himself to the instruction of our youth, to the training of intelligent, immortal minds, is occupied in a business, which entitles him, I must think, to a *distinguished* place of honor and esteem among those to whose callings I have thus respectfully referred. One fact may suffice to show this. The office of the teacher is primary and essential, as a means of qualifying the several classes of persons referred to, and all others, to prosecute, with usefulness and success, their respective occupations. Exclude the teacher from our land, demolish our school-houses, our academies, our colleges, and leave our youth to grow up without instruction, and where would be your agriculture, your mechanic arts, your trade and commerce, and men to fill the different learned professions, and to make and administer your laws? They could no where be found, and society would sink back into a state of ignorance and barbarism. But this is a general view. We must descend to particulars.

Consider then, in the first place, the *nature of the subject* on which the teacher operates. This is not

matter, but mind, voluntary, intelligent mind; made in the image of God, capable of vast improvement, and destined to exist forever. Matter, whatever impressions we may make upon it, or into whatever forms we may mould it, or structures rear from it, is destined, after a few brief years, to decay and fall back into its original elements. Upon the material substance of the earth, we can make no permanent, enduring impression. Our proudest works are of a transient character. Time wears them away, and all that is of the earth is one day to perish. It is not so with mind, the material on which the teacher exerts his formative power. That is immortal; the impressions made upon it are imperishable, and the character to which it is here trained is lasting as its being, and is to decide, eternally, its condition in that unknown hereafter to which it is destined. Such a mind dwells in the bosom of every human being, however rugged in exterior, or degraded in condition. In the little infant, lying in its mother's arms, or slumbering in the cradle, you behold an embryo angel. A spark of celestial origin has been kindled in its unconscious bosom, which is to glow forever; a mind is there, made for high and noble ends, and which is to outlive time and all its changes.

Now the office of the teacher is to take mind, in its youthful, tender and most susceptible age,

> Tremblingly alive all o'er,
> To each fine impulse;

and form it for the great purposes for which the Cre-

ator brought it into existence. Truly this is a sublime and most dignified work, if aught beneath the sun is worthy of this character. To train the body to vigor and robustness, to give beauty and strength to its form, and health and efficiency to its various functions, is justly regarded as an important and difficult work,— and this too is a part of the teacher's work, which he is by no means to overlook or neglect; — but how far does it sink below that other part of his work, which has to do with the mind, with intelligent, deathless, endlessly progressive mind?

We may notice next the *design* of the teacher's office, the *end* at which it aims. It is a poor, unworthy conception of this office, to regard it, as many seem to do, as chiefly intended to teach the young how to read, write and cypher; or to qualify them merely for the ordinary pursuits of life, and thus enable them to pass, a little more respectably and comfortably, through the brief span of being allotted them on earth, O no; the teacher's office rises infinitely higher than this. Its great design is to evolve, invigorate and mature the faculties of the soul; "to unfold the power of thought — thought, which propagates itself forever; to discipline the will, the central principle of character, of all finite power, great or good. It is to nurse and mature the social and moral sensibilities of a spiritual and accountable being;" to bring the lower appetites, propensities, and sentiments under the control of cultivated reason and enlightened conscience; to inspire in the bosom the

love of truth, of virtue and excellence; in a word, to take the young immortal by the hand and train him up for time and eternity, for duty and for God; to realize in his person and character, Milton's admirable definition of a complete and generous education, "that which fits a man to perform justly, skilfully and magnanimously, all the offices, both private and public, in peace and war;" or we may add, all the offices which he owes to himself, to his fellow-men, and to his Maker. What object of enterprise more dignified and excellent than this? I speak of the office of teaching, not as it is often, and, perhaps, generally regarded, as involving a dull, uninteresting task, of little efficiency, fit to be committed to any hands, and to be gone through, with no hope of great results, but only for the little pittance of pecuniary compensation it may afford. Such a view of the teacher's calling, though a common one, is exceedingly low and degrading. I speak of that calling in its true and proper character as adapted and intended to educate and train up young and growing minds for the duties of life, and the scenes of eternity; and viewed in this light, is it not a calling at once "beautiful and sublime," even "worth ambition?" How little can the ordinary pursuits of life bear comparison with it? The man of business plans and toils that he may accumulate wealth, and provide for himself and his family what he deems a more comfortable or a more honorable mode of subsistence. The artist studies and labors year after year, that he may impress on canvas, or sculpture from the marble some

enduring monument of his genius, to be looked at and admired when he is gone. The physician compounds and deals out his medicines, and the lawyer prepares and pleads his cases,—all well enough, and useful to some extent; but all secondary in their nature, and limited to time in their results. But the teacher, who takes a right view of his office, has a higher and a nobler aim. It is to draw forth and form for usefulness and happiness, here and hereafter, the hidden, god-like powers of the soul. It is to write imperishable characters on immortal mind, fit to be read before the universe. He looks through the scenes of time, onward through endless ages, and his great object is to qualify those committed to his training for whatever duties and events may attend them in the whole progress of their future being. In this way he erects monuments of intelligence, virtue and honor, lasting as eternity. He erects temples of God, which shall reflect his glory and sound forth his praise, eternal ages after this temple of the creation shall have crumbled into dust and passed away.

And here I must insist, that no teacher takes a right view of the duties of his office, who does not connect with it the moral and immortal training of those entrusted to his care. To fail here is to leave out of view, is to disregard and neglect, by far the noblest and most important part of his work. Immortality is a great fact, responsibility is a great fact in the nature and destiny of man; and that education is radically defective, which does not direct its first and most assiduous efforts to the training of the moral

and religious affections, the conscience and the heart; thus imparting to its subject a quick perception and a deep feeling of right and duty, and so qualifying and disposing him to discharge with fidelity his high and sacred obligations as an immortal and accountable subject of the divine government.

Let me request you to consider next, *the means* which the teacher employs to accomplish the end at which he aims. The means is as simple as the object is sublime. It may be expressed in one word, *truth;* truth, derived from whatever objects and from whatever source, applied, with affection and skill, to elicit the faculties, and mould the sensibilities of the mind. The mind was made for truth, and truth for the mind. There is an admirable adaptation of the one to the other; and he is the best teacher, who has the greatest love of truth himself, and the happiest talent for making others understand and love it. And how excellent is that office, which calls one to deal continually with intelligent mind, through the medium of truth as his instrument. There is here no room for physical force. It is all a matter of light and persuasion. The mind is not trained by coercion or compulsion. It yields only to truth and love. It has been justly said, we are to regard the "mind, not as a piece of iron to be laid upon the anvil and hammered into shape, nor as a block of marble, in which we are to find the statue by removing the rubbish, nor as a receptacle into which knowledge may be poured;" nor, we may add, as a passive machine to be moved by mere external force, and to

have a character given to it without its own voluntary activity and free choice; — but rather, as a "flame that is to be fed, as an active being that must be strengthened to think and feel, — to dare, to do, and to suffer." It is as a germ, endowed with a hidden life; and the teacher's province is to cause that life, that internal force to expand; to wake it into vigor and activity by shedding the light of truth upon the intellect, and plying the heart and conscience with appropriate motives. The teacher's office is at an end, when he has brought his pupil to an ardent love of truth, and has taught him how to use his faculties in searching after it.

I have spoken of truth as the great means of training the mind. But I should fail of my duty, and do injustice to my subject, if I did not, in this connection, speak of divine truth, truth as contained in the Bible, as having a power, above all other means, in effecting the great object of teaching. So we should judge beforehand, if it once be admitted, that the Bible is from God, and is designed by him to be the grand instrument of re-forming men after his image, and fitting them for his service and kingdom. And so it is in point of fact. The Bible is pre-eminently a book for the people. It speaks to the inner man with a voice of tenderness and power, which turns into feebleness all other means of instruction and influence. It is the most powerful quickener of intellect that can be brought to act on the mind; and as to all that relates to enlightening the conscience, regulating the affections, and adorning the

character with the graces of true virtue and piety, the Bible has an influence altogether its own. As a book of government in the family and in the school, it is more efficient than any other instrumentality that can be employed. In its history, in its biography, in its poetry, in its eloquence, in the knowledge it imparts of God and the soul, and of duty and salvation, in a word, in all that can enlighten the understanding, comfort the heart, elevate the affections, and form the mind for high and noble purposes, it is emphatically *the book of books;* and the teacher who should dismiss it from his plan of instruction, or who neglects to give it a prominent place among the means he adopts for training minds, divests his office of more than half its dignity, and throws away the most effective instrumentality which he can use, in effecting the object at which he professedly aims. And I can think of nothing more insane or impious, than the attempt which many in our land seem willing to make, to exclude the Book of God from our systems of juvenile instruction, and thus abandon the rising generation to be trained up with no religious knowledge, or under a system no better than refined heathenism or deism.

Further to show the dignity of the teacher's office, I will next advert to *the qualifications* demanded of him in order to a right and successful discharge of his duties. Here again I must speak, not of what is, but of what ought to be. It is strange what crude notions many people have of the business of teaching. They insist that their tailor shall know how to cut

their clothes to the fashion. The mechanic, who makes the furniture of their houses, must be an accomplished workman. The doctor, who prescribes for them in sickness, must be a man of skill; and the lawyer whom they employ to manage a case in court, must be well read and competent in his profession. But the teacher of their children, he to whom they commit the training of their minds and the forming of their characters, —alas! almost any novice will answer for that service. Hence, the first inquiry with many, when seeking an instructer, is not whether he is well qualified for his business, intelligent, apt, devoted and successful; but can he be had cheap; and will he make the children mind him? How poor and unworthy a conception is this of the requisite qualifications of a teacher of youth? And yet how common? Mr. Simpkins's "four dollar master" is not, even in our day, altogether an imaginary character. He is, after all, in too many cases, the most popular master; and most in demand. And because it is so, many who lose their way in following the plough, or in keeping sheep and cows, wander off, and find employment as schoolmasters. This lets down the teacher's calling from its true dignity, and leads people to entertain very inadequate views of the qualifications demanded in that calling, in order to a right discharge of its delicate and difficult duties. What a pity, it was wont to be said of the late Dr. Arnold, while head-master of Rugby School, what a pity that a man fit to be a statesman, should be employed in teaching boys. A far nobler and

truer sentiment had been uttered, if it had been said, that the greatest and best of men are never better or more usefully employed than when engaged in the high and honorable occupation of training youthful minds.

With regard to the qualifications required in him, who undertakes this office, I cannot, of course, be expected, in this place, to go into a large consideration of them. Let it suffice to say, that, in every point of view, they are such as impart high dignity and worth to the character of him who possesses them in due measure. He is first of all to be purified of everything low, selfish, narrow, dogmatizing and repulsive in his views, feelings and manners. He must have a mind well cultivated, intelligent, clear, active, largely imbued with patience and kindness, and full of the *spirit* of teaching. He must enter upon his business, not, as Dr. Arnold says, *ek parergoi*, or as a secondary, easy concern, but as a substantive and most important duty, and devote to it his best time and his best energies. He must, especially, have an ardent desire for the improvement and happiness of his pupils; and endeavor, in all his intercourse with them, to inspire them, not only with respect for others, but with respect for themselves. "Maxima debetur puero reverentia," was a maxim of education among the ancient Romans; and it is worthy to be carried out in practice in all the families and schools of the land. It is related of a German professor, in one of the first Universities of his country, "that whenever he came into the presence of his youthful

class, he used always to take off his hat in token of respect. When remonstrated with for this practice, by his compeers in office, as calculated to let down the dignity of the faculty with the students, he made this reply, — 'I see in these youth the future lords, nobles, counts and literati of the land, and I bow to them now in homage to what they shall be.' "

In a word, — for I must not dwell here, — I know not how the character of a well-qualified teacher can be described in fewer or more expressive terms, than those used by the distinguished individual already more than once referred to — "He must be a Christian and a gentleman, an active man, and one who has common sense, and understands boys." In another place he says, — "the qualifications which I deem essential to the due performance of a master's duties here, may in brief be expressed, as the spirit of a Christian and a gentleman." He must be a gentleman; and this means a man of intelligence, refinement, and true benevolence. He must be a Christian; and this means a man, who is governed by the spirit and precepts of the Gospel, and performs his duties under an abiding, practical sense of responsibility to a higher Power.

What has now been said, may suffice to convey some just idea of the requisite qualifications of a teacher of youth. And what is wanting in them, which is at all essential to constitute a character of true dignity and excellence? Here is cultivated intelligence; here is Christian benevolence; here is devotion to a great and noble object; and here is a

recognition of responsibility to God, for the manner in which the duties, connected with the attainment of that object, are performed. These qualities all meet in the character of a thoroughly accomplished teacher; not one of them is lacking when the office is duly filled; and when combined in due symmetry and proportion, as they always should be in the person of him, who devotes himself to the business of training immortal minds for duty and happiness, here and hereafter, I leave my audience to judge, whether they do not impress upon him a character of the highest excellence and worth, and which is justly entitled to the love and respect of all who behold it.

I might refer to *actual results*, as illustrating the importance and excellence of the teacher's office. A saying of Lord Brougham has been repeated thousands of times, as expressive of a great thought, — "the schoolmaster is abroad." He meant to express by it the fact, that popular education is on the advance; and, in connection with that, the civilization and improvement of the great mass of the people. And where, in all the world, is there any civilization or improvement among the people, except where the schoolmaster has been, and is, abroad? Who of us has not felt the powerful influence of his office? Who of us does not owe to it a debt of gratitude, which we can never repay? When we look over this favored portion of our country, and ask, whence the general intelligence, virtue, order, and happiness that characterize the people; whence their enterprise and thrift; whence their countless privileges, their

innumerable sources of enjoyment, and the thousands of smiling, happy homes that meet you on every side as you pass through the land; the answer is, the schoolmaster is abroad. He has come down to us with his commission signed by our Pilgrim ancestors; and his influence, from the first, has been like the rain and the sunshine of heaven. The school-houses and academies, that adorn our villages, and are scattered over our hills and valleys, have sometimes been called the forts of New-England. They are so, in a far higher and better sense than would be realized, if these were demolished, and our land were filled with literal fortresses and munitions of war. And if ever our country is to be saved from anarchy and bloodshed, and made to hold on in a course of freedom, prosperity, and growing greatness, it will be only as we keep the schoolmaster abroad, and make his influence so widely and powerfully felt, that it shall reach, enlighten, and bless all the villages, hamlets and families of the land. The schoolmaster, going forth every where, with his Bible and books of elementary instruction, to enlighten and train our youth, will do more to save and bless our land, than all that can be effected, by the legislation of the greatest and best of our statesmen.

I might further magnify the teacher's office by adverting to the fact, that he stands associated in his duties with a long bright succession of many of the highest and noblest characters that have ever lived in the world. I cannot now present you an extended catalogue of names, in proof of this point. But any

one, who has even a slight acquaintance with the history of past ages, as connected with the progress of our race, in knowledge and civilization, will readily recall a long list of illustrious men, who have contributed, essentially, to that progress, by devoting their highest and best powers to the business of teaching. Socrates, Plato, Aristotle, Quintilian, and indeed the ancient philosophers generally, both Grecian and Roman, devoted a portion, and many of them a large portion of their time to the instruction of youth. English history is full of names, as is also the history of our own country, of persons alike distinguished for their talents and their virtues, who sought and acquired their highest honor and usefulness in this department of labor. Indeed, what else is the Christian ministry, but an office of teaching? It was ordained by the great Head of the church for this very end; and every faithful minister of his, in the performance of his appropriate duties, is a teacher; peculiarly a teacher of the young, but also of all to whom he is appointed to minister. To him indeed is assigned a higher and more sacred department of instruction. He deals, primarily and chiefly, with the revealed truth of God, in its bearing on the heart and conscience, as an instrument of repentance and salvation. Still he is a teacher; this is his highest character; a dispenser of light, a trainer of minds, a moulder of heart and character; and in this his highest and noblest office, he does but carry on and perfect the work, which was begun by the mother, teaching in the nursery, and the schoolmaster, teaching in the parish school-house.

The Apostles of our Lord, though inspired men, were teachers; and their highest honors and their mightiest achievements were acquired, not in trade or in politics; not in legislation or in swaying the sceptre of power, but wholly on the field of teaching; and on this field, they gratefully acknowledged as co-workers with themselves, such a one as Lois, the grandmother of Timothy, and other women, who are honorably named as their helpers in the Gospel. Nay, our divine Lord himself came into the world as a teacher. This was his office as the anointed of God. And all the time he spent on earth he went about teaching; unfolding to the minds of men the great truths and duties of his Gospel, and exerting over them an influence to form them for virtue, for happiness and heaven. Indeed, what is the great aim of all the influences wh ch God himself is exerting over his intelligent creatures here on earth? What is it, but to teach, to instruct them; to draw forth, to elevate and ennoble their minds; to re-form them after his image, to educate them, in a word, for a higher and better state of being in the coming world? In this view, it may truly be said, the world, in which we live, is a vast school; men, in their successive generations, are its pupils, and the great God their teacher. Surely to teach, even in the humblest sphere, is an office of sacred dignity, and the responsibilities connected with it might well make an angel tremble.

One other thought I must suggest, as showing the high honor and excellence of the teacher's office; it is the *rewards* inseparably connected with a faithful

performance of its duties. These rewards are indeed of but little value, if we refer only to pecuniary compensation. This is, in fact, the merest pittance of what is due for services, so laborious and useful, as those performed by the faithful teacher. Still his rewards are great, and they are certain. Things in this world are great or small by comparison. The rewards of the merchant are great, when his plans of business return thousands of wealth into his coffers. The rewards of the lawyer are great, when his cases multiply and he rises to the head of his profession. The rewards of the politician are great, when his schemes of ambition are successful, and he is crowned with the honors of office. So men judge. But one fact is to be noticed. These rewards while in possession, afford but little satisfaction, and at the close of life, their entire summing up is *cypher, is nothing*. They pass away with the breath that sought them, with the breath that conferred them, and are no more. Not so the reward of the faithful and devoted teacher. These are great, because satisfying in their nature, and they endure to eternity. I speak only of the teacher who loves his work, and conscientiously devotes his best energies to the duties of his calling. Such a one is rewarded in the conscious approbation of his own mind, as engaged in a high and noble work. He is rewarded in seeing the young and growing minds, committed to his training, unfolding their powers and giving promise of honor and usefulness in future life. This is certainly a source of high and peculiar enjoyment, as I can testify from experience.

Many of the happiest hours of a sufficiently happy life, I have spent in teaching, and never have purer or sweeter joys entered my bosom, than when standing in the midst of a garden of young minds, I have seen them, as plants and flowers of paradise, unfolding their beauties, and shedding their fragrance abroad; preparing, under the hand of culture, to flourish eternally in holier and happier climes. The faithful teacher is also rewarded in the respect and esteem of the wise and good, who know how duly to appreciate his labors. He is rewarded in the affectionate and grateful remembrance of those whom he has trained to virtue, to honor and usefulness; and into whatever lands they may wander, or whatever station occupy in life, no name, except that of parent, will ever sound sweeter in their ears, or awaken warmer emotions of gratitude and respect, than that of the beloved teacher of their youthful days and former of their youthful character. But more than all, he is rewarded in the approbation of Him, whose favor is life, and whose loving kindness is better than life; and who, in the adjustments of the last day, will bestow crowns of distinguished glory, on all those who have faithfully labored in training intelligent, immortal minds for the duties of the present life, and for the higher destinies of the future world.

The teacher's office then, in every point of view, in which it can be contemplated, is one of distinguished dignity and usefulness.

One practical inference from this view of the subject is, that teachers themselves should hold their office

in high respect and honor. They do not always do this. They assume the office with no suitable qualifications for the performance of its duties. They resort to it as a task to be done for so much money; they have no spirit of teaching, no interest, no life in the employment, and no sense of the responsibility connected with it. They take it up as a business to be pursued a few months, to get a few dollars in the pocket; and then to be laid aside for some pursuit, which they deem more respectable or more profitable. This degrades the office, and is a source of unspeakable injury to the cause of common education in our land, as well as to the minds immediately subjected to this ignorant, incompetent, bad influence. I do not say that none should engage in the business of teaching, who do not mean to make it their calling for life. There are many, I know, who resort to it as temporary occupation, who are well qualified for their duties, and do good service to the community during the time they spend in the instruction of the young. But this I say, none should attempt to teach, who have not themselves first been taught; none who have not a high sense of the dignity of the calling; who do not engage in it with earnestness and love; devote to it their best time and talents while employed in it, and perform all their duties with a practical sense of their bearing on the present and immortal well-being of those whom they are called to instruct. If all who engage in teaching did but properly consider the nature of their calling, the qualifications required of them, and the conse-

quences, temporal and eternal, connected with the manner in which they perform their duties, it would go far to raise their office from that low esteem in which it is now too generally held, and also to engage them to bring to their work the best affections of their hearts and the highest powers of their minds. It was a great stimulus to the genius and power of one of the most distinguished men of antiquity, to reflect, that he wrote for immortality. How should it rouse the talents and fire the energies of the teacher to consider that the inscriptions he draws, the characters he impresses on the minds he is educating, are for eternity, and will hereafter be read before an assembled world ?

Another inference from our subject is, that well qualified and faithful teachers deserve much better of the community than they usually receive. The learned Scalliger used to say, we are bound to give thanks to God that he had inspired some men with patience to write dictionaries. And I certainly think thatwe are bound to give thanks to God, when he duly qualifies and disposes some men to devote themselves to the arduous and difficult duties of teaching. They are among the most useful men in the community, and should be held in the highest honor and esteem. And yet in point of fact, how miserably is this class of persons compensated for their toils ; and how little are they generally honored, compared with their deservings ? The compensation usually given them is altogether inadequate ; scarcely more than just enough, even in our highest schools, to afford a scanty living,

perhaps to a single man, rarely to a man with a family. This in many cases amounts to downright oppression. It is a violation of the great moral rule, that the laborer is worthy of his hire. It is also the worst possible policy. Its direct tendency is to degrade the office of teaching from its proper rank, and excellence, and to exclude from it all, of high talents and noble minds. Then, as to our common schools, who that knows how to cut down a tree, or make a shoe, would think of engaging himself to teach them, beyond a few months in the winter season, when he can do nothing else — so very meagre and contemptible is the wages usually given for that sort of service? This is all wrong, radically wrong. Our entire system of common school education needs to be placed on a higher and more liberal foundation. Our youth can never be well and competently instructed in our schools as they now are; and these schools can never be what they ought to be to meet the wants of the community, till the compensation for teaching be raised far above what it now is; till indeed it be such as to exalt teaching to a profession, and make it an object for persons of talented minds and high qualifications, to choose it as their calling for life. This, in my opinion, is the great desideratum which needs to be realized in our land. Something towards this has been done in some of the states, by establishing and endowing, at the public expense, high schools and seminaries, at which teachers may be better qualified for their work, and where a more thorough education may be obtained for the ordinary duties of

life. But we have only, as yet, made a beginning. Connecticut, I am sorry to say, is far in arrears in this matter. I will not say, as has often been said, that our school fund, of more than two millions of dollars, does no good. But certain I am, that in the present mode of appropriating the annual income of the fund, but very little good is accomplished, compared with what might be. In many cases, there is reason to believe, it operates only as a bounty on indifference and covetousness; inducing the people to eke out a poor school of three months with a cheap master, where there ought to be a good school of six months with a master liberally paid. I repeat then, our whole system of education for the people needs to be put on higher and more liberal ground. In order to accomplish this, it is first of all necessary that the office of teaching should be generously sustained, and duly honored by the public; and then, none should be sought for, or allowed to fill the office, but persons in every respect, well qualified to discharge its duties,—intelligent, virtuous, spirited, wholly devoted to their work. This is demanded by the essential dignity of the office of teaching. It is demanded by the general interests of education in our land. It is demanded, in a word, by the prosperity of our country; by our very being as a great, a free, and a happy nation. We fought for our independence; we achieved it. We have established a noble form of government, and rejoice in free institutions. We possess an inheritance richer in blessing, in privilege, in hope, than ever fell to the lot of any other peo-

ple under heaven. How is this inheritance to be preserved, and transmitted to bless those who are to come after us? I answer, by diffusing the means of education, of an enlightened, Christian education, among the entire mass of the people. I say *Christian* education; because I have not the slightest confidence in any other; least of all, have I any confidence in that half infidel, mongrel system of education, which excludes the vitalities of Christianity, and foolishly, as wickedly, would train the minds of our youth without God and his Bible. This then is the work which demands to be done for our country; our salvation as a nation depends upon it; and for its being done with the least possible delay, all in the community are responsible according to the influence possessed by each. In the eloquent language of him who delivered the closing lecture before this Institute at its annual meeting last year, I would say — "Society is responsible,— not society considered as an abstraction, but society as it consists of living members, which members we are. Clergymen are responsible, —all men who have enjoyed the opportunities of a higher education in colleges and universities, are responsible, for they can convert their means, whether of time or of talent, into instruments for elevating the masses of the people. The conductors of the public press are responsible, for they have daily access to the popular ear, and can infuse just notions of this high duty into the public mind. Legislators and rulers are responsible. In our country, and in our times, no man is worthy of the honored name of a

statesman, who does not include the highest practicable education of the people, in all his plans of administration. He may have eloquence, he may have a knowledge of all history, diplomacy, jurisprudence, and by these he might claim the elevated rank of a statesman in other countries; but, unless he speaks, plans, labors, at all times and in all places, for the culture and edification of the whole people, he is not, he cannot be an American Statesman." *

It only remains that in my own behalf, and in behalf of my fellow-citizens, I bid a cordial welcome to the American Institute of Instruction to our city and to the hospitalities of the people. May all its deliberations be conducted in that wisdom which is from above, and serve to give a powerful and salutary impulse to the great and good cause of education.

* H. Mann.

At the late meeting of the American Institute of Instruction, held at Hartford, Conn., it was

Voted, That the Institute request the Rev. Dr. Hawes to furnish a copy of his Address, delivered at Hartford, on Sunday Evening, August 24th, on "Female Education," for this Volume of Lectures.

ADDRESS

ON THE

FORMATION AND EXCELLENCE

OF THE

FEMALE CHARACTER.

By JOEL HAWES, D.D.

I BEGIN my Address with an extract from a very ancient book, held in high esteem by some, though greatly neglected by others; but which is worthy to be made the text-book for female education throughout the world. The extract is this:—"Who can find a virtuous woman? for her price is far above rubies. The heart of her husband doth safely trust in her, so that he shall have no need of spoil. She will do him good, and not evil, all the days of her life. She seeketh wool and flax, and worketh willingly with her hands. She is like the merchants' ships; she bringeth her food from afar. She riseth also while it is yet night, and giveth meat to her

household, and a portion to her maidens. She considereth a field, and buyeth it; with the fruit of her hands she planteth a vineyard. She girdeth her loins with strength, and strengtheneth her arms. She perceiveth that her merchandise is good; her candle goeth not out by night. She layeth her hands to the spindle, and her hands hold the distaff. She stretcheth out her hand to the poor; yea, she reacheth forth her hands to the needy. She is not afraid of the snow for her household; for all her household are clothed with scarlet. She maketh herself coverings of tapestry; her clothing is silk and purple. Her husband is known in the gates, when he sitteth among the elders of the land. She maketh fine linen, and selleth it; and delivereth girdles unto the merchant. Strength and honor are her clothing; and she shall rejoice in time to come. She openeth her mouth in wisdom; and in her tongue is the law of kindness. She looketh well to the ways of her household, and eateth not the bread of idleness. Her children arise up, and call her blessed; her husband also, and he praiseth her. Many daughters have done virtuously, but thou excellest them all. Favor is deceitful, and beauty is vain; but a woman that feareth the Lord, she shall be praised. Give her of the fruit of her hands; and let her own works praise her in the gates." *

We have many addresses and treatises on female education, and the excellencies of the female character. Some of them I have read and admired much.

* Proverbs, xxxi. 10—31.

But I do not recollect anything of the kind, so worthy of deep study, and general application in forming the female character, as the brief sketch just read in your hearing. It is indeed brief, but very comprehensive. It abounds in principles. Like all the inspired writings, it is remarkably suggestive. We cannot read it, but a great variety of thoughts crowd on the mind, and we wish to pause, at every verse, and reflect upon the topics brought to our notice. The character it presents is drawn with special reference to the usages of the times in which the writer lived; but its main features are of permanent excellence, and equally suitable to persons of every age and station in society. The description which it gives us of a virtuous woman, though not exactly in accordance with the taste and manners of modern times, is, for symmetry, beauty and completeness, unsurpassed, in my estimation, by anything that can be found in the writings, either of ancient or modern date. And I know not how I can better perform the duty assigned me, on this occasion, than by attempting to fill up the picture, — to present you with what good Matthew Henry calls a "looking-glass for ladies, which they are desired to open and dress themselves by; and if they do so," "their adorning will be found to praise, and honor, and glory, at the appearing of Jesus Christ."

The term virtuous, used in the scripture before us, I take to have a wider signification than is wont to be given to it in common discourse. It denotes both health of body and endowments of mind, and includes, in general, all those intellectual, social, and moral

qualifications, which belong to a woman of superior excellence, and finished worth of character.

The interrogation, "Who can find a virtuous woman?" seems to imply a great scarcity of such characters, especially, in the times of Solomon, when the description we are considering, was penned. And this, we doubt not, was the fact. It is true, the condition of females among the Israelites was far superior to what could be found in any of the surrounding nations. The honorable station assigned to woman at her creation, as a "help-meet for man," and the command in the decalogue, "honor thy mother;" together with the general estimation in which she is held throughout the Old Testament scriptures, contributed greatly to dignify the female sex, and to make a family, among the Jews, a very different circle from what it was among the Greeks and Romans, or any other nation on earth, not favored with the light of revelation. Still the condition of Jewish females was far from being an enviable one. Their education was very limited; confined, for the most part, to common household affairs; and when it was carried somewhat farther, it rarely extended beyond such accomplishments as were in the fashion of the day. There were exceptions, of course; some of them are honorably mentioned in the scriptures; but there is much evidence, that the general state of female society among the Jews, especially at some periods of their history, was exceedingly depressed; such as would naturally prompt, and fully justify, the inquiry, — Who can find a virtuous woman? It becomes us

to be grateful to God, my friends, that this inquiry is far less pertinent and applicable now, than it was in ancient times. In nothing is the progress of Christian civilization more remarkable, than in the elevation it has imparted to the female sex. In this view, woman's indebtedness to the Bible is greater than can be estimated. It has changed all her relations, enjoyments, duties, and prospects in life, and all her hopes for eternity. Throughout the world, where the Bible is unknown, woman is ignorant, degraded, substantially enslaved; a poor, trembling drudge, waiting on the desires of a haughty, domineering master. But wherever the Bible has diffused its light and power, there it has restored woman to her proper place in society; it has redeemed her from an Egyptian bondage of body and mind; and while it has given greater sensibility and delicacy to her affections, it has enlarged her understanding, purified her taste, adorned her manners, dignified her character, and widened, exceedingly, the circle of her influence and enjoyments; it has done all this on so extended a scale, especially in this highly favored portion of our country, that, if the question were asked, who can find a virtuous woman, we could point to thousands of mothers, daughters, sisters, who realize this character in their own persons, in all its amiable and excellent qualities.

The price of a virtuous woman, it is said, is far above rubies. The expression is beautiful, and is as well fitted as any other to give us an idea of the high value of such a character. And yet it may be truly

affirmed, that all the rubies in the world are too poor to form or to purchase such a character. The elements of which it is composed are too pure, too divine to be bought by earthly treasure. They are of heavenly origin, are primarily the gift of God, though combined, elevated, and improved, by human skill and care; and when united in due proportion, and cultivated so as to receive their highest finish, they impart to the woman who possesses them a moral beauty, a moral dignity and worth, which entitle her, indeed, to a rank in creation a little lower than the angels. But, as this topic will be sufficiently illustrated in the progress of my remarks, I dismiss it, to take up, in detail, some of the leading traits in the character of a virtuous woman, as drawn by the pen of inspiration.

And, first, it is said of this woman, that she girdeth her loins with strength, and strengtheneth her arms. A due attention to health is here indicated, and if this be not in itself a virtue, it is very essential to the cultivation of all the virtues. A feeble, sickly, delicate body is but a poor tenement to be occupied by an immortal mind; and when it is doomed to inhabit such a body, its noblest energies are depressed, and the highest graces of a virtuous character, unable to develop themselves, are crushed in the bud.

How the virtuous woman strengthened her loins and her arms, or how she acquired and maintained firm and vigorous health, we can be at no loss to know, after reading what is said of her occupations and habits. Though evidently of a high rank in

society, she did not think it beneath her station, nor inconsistent with her views of delicacy and refinement, to occupy herself in domestic affairs. From the whole description given of her, we are warranted to say, that she was what is sometimes called a stirring body; one who had always something to do, and was always doing it; not wasting her time and strength in ease, in indolence, and inefficiency, but busy, active, industrious; rising early, and seeing that all the concerns of the household were attended to at the right time and in the right manner; and not unwilling, when there was need, to put a helping hand, to whatever work demanded to be done. This secured her health, kept her from *ennui*, and the dismal train of ills included in nervous affections, made her strong, vigorous, and cheerful, and qualified her to fill, with usefulness and honor, the station assigned her in Providence.

The virtue, — for such I must call it, — here referred to, is sadly neglected in the training of our daughters at the present day. At least, one would think so, from seeing the puny forms, and feeble frames, and sickly faces of great numbers of our younger females, especially of the higher classes. Account for it as we may, the fact must be admitted, that the muscular vigor and strength of our fair countrywomen have, for a long time past, been undergoing a melancholy change. Our grandmothers, should they appear among us, would scarcely recognise many of their descendants as belonging to the same race with themselves, so diminished are they in size, vigor,

and portly gait. But a small proportion of our adult females enjoy complete health; and it has been said, that a full half of the wives of our missionaries have been found, on trial, not to have had sufficient health for the stations they were called to occupy. The evil here complained of is, no doubt, to be traced chiefly to bad training in the nursery and in the family; to an ignorance or disregard of the laws of our physical system in respect to health. But the mischief, commencing here, is often aggravated in schools and higher seminaries of learning, and receives its finish in the intercourse and habits of fashionable life. The mind, or brain, as the physiologist would say, is too severely tasked, is overworked in its tender age; a due attention is not paid to air and exercise; and in the eagerness to have the pupils compass the whole *curricculum* of knowledge in a given time, it is often forgotten by parents and teachers, how easily the health may be impaired by such a process, and so impaired, that the mind, the heart, the whole character shall shrink and dwindle into feebleness and inefficiency, and the life become vapid, useless and miserable. The evil here suggested is an appalling one. It deserves the most serious attention of all who wish well to the rising generation. It acts not on the body alone, but on the mind, on the intellectual and moral character; not on the fair sex alone, but on the other sex also, and is raising up a race of feeble, sickly beings, as unfit for the serious duties of life, as they are to enjoy the blessings of full and vigorous health.

I here touch upon a topic which might well occupy the rest of my Address. It is distressing to notice what tyranny fashion exercises over many of the fair sex. Crowds of them are seen bowing at the shrine of this inexorable goddess, and yielding obedience to her mandates, to the utter ruin of their health and happiness. In many of our cities and larger towns, aye, and smaller towns too, her reign is indeed the reign of terror. She has but to speak, and no matter how absurd and ridiculous, or even torturing, her utterances, she is at once listened to and obeyed. Not satisfied with dictating rules of dress, diet, air and exercise, she assumes the right to apply instruments of torture to the bodies of her victims, by which they are compressed and broken into a form utterly destructive of nature's beautiful model, and thus misshapen and deformed, heart, lungs, and other vital organs literally crushed within them, they are compelled to drag out an existence devoid of comfort and of usefulness. I cannot enlarge. I hope the evil here indicated is not so prevalent as it was a few years since. It has in some degree been corrected by the diffusion of better views on the subject of physical education. It still however prevails to a melancholy extent; and it ought to be discountenanced and resisted by all who wish well to the rising and the risen generation. If mothers would see their daughters adorned with the character of the virtuous woman, they must learn to train them with a rigid reference to the laws of health, so as to secure the most perfect development both of body and mind.

And our daughters must learn the essential conditions on which health depends, and carefully conform to them. They must learn, that if they would have a sound mind in a sound body, cheerful spirits with beautiful forms and blooming countenances, they must cease to worship at the shrine of the goddess of fashion, and follow the precepts of reason and common sense, — must breathe pure air, take free exercise, be satisfied with a simple, nutritious diet, and never be afraid to bear a part in the work of the kitchen, and the common affairs of the family. They must learn, in a word, in the whole course of their training, both at home and in the school, to mingle labor with study, active with sedentary employments, and never fall into the absurd notion, that in order to be delicate they must be indolent, or, that in order to be fine ladies, they must form themselves into those inefficient, fainting, nervous things that often pass under that name.

I must here notice, a little more particularly, the industry and economy of the virtuous woman. These are mentioned as shining traits in her character. She seeketh wool and flax, and worketh willingly with her hands. She layeth her hands to the spindle, and her hands hold the distaff. She riseth also while it is yet night, and giveth meat to her household, and a portion to her maidens. She looketh well to the ways of her household, and eateth not the bread of idleness. The virtues here commended, though little fashionable in many circles in our day, are among the most essential of woman's qualifications. They

denote a thorough practical acquaintance with the arts and duties of domestic life. And this is a matter of so great importance, that there can be no substitute for it. A woman who is destitute of the virtues of industry and economy, or who knows not how to preside over the family, and "guide the house" with prudence and skill, is entirely unfit for the station for which the Creator designed her. Whatever other attainments she may possess, if she is deficient in this, she will soon find that she lacks what is indispensable to the comfort and prosperity of a family, and to her own peace of mind, respectability and usefulness. There is no apology for an indolent woman, or for one who knows not how to manage the concerns of a family, or, in homely phrase, how "to keep house." There are none so rich or so elevated as to be exempted from the law of industry which was ordained in Paradise, and has never been repealed, in respect to any of the daughters of Adam. The wealthiest, the happiest, the most exalted in station, know not what is before them for a single day; but may, at any time, by a sudden reverse of fortune, such as has befallen thousands within a few years, be thrown into circumstances where habits of industry, economy and skill in domestic affairs will be found indispensable to obtain for them the means of subsistence. The female who disregards the law of industry, or who lives in idleness and ease only to be flattered, and caressed, and taken care of by others, is sure to suffer the penalty of transgression, by the loss of health and cheerfulness, by sinking into a state

of mental inaction, and of morbid sensibility and sloth, as little consistent with her own respectability and happiness, as it is with the true dignity and excellence of her sex. It is, I know, a common sentiment, and it has the sanction of a distinguished writer, that a great care of household affairs generally spoils the free, careless air of a fine lady. But what of truth is contained in this sentiment is more than counterbalanced by the following observation of Dr. Witherspoon, a sage observer of human affairs; "Men may talk in raptures of youth and beauty, wit and sprightliness, and a hundred other shining qualities; but after seven years' cohabitation, not one of them is to be compared to good family management, which is seen at every meal and felt every hour in the husband's purse." Indeed, that husband is ruined, who does not find his house a respectable, social, neat, and happy home; and such a home he will never find it, if his wife is a slattern, or is indolent, and unskilled in domestic affairs.

That the virtuous woman had a cultivated and well-furnished mind is evident from the whole description which is given of her character. It might seem from the measure of attention she is represented as devoting to domestic duties, that she would find no time to cultivate and store her mind with useful knowledge. But she appears to have been a woman of order, system, and of strict economy in the use of time. She spent no hours in unnecessary sleep or in vain amusements; but rose, it is said, while it was yet night, to give meat to her household and a portion to

her maidens. This early and seasonable disposal of household affairs would secure for her much leisure for mental improvement, and she appears to have made the best use of this advantage. She may have enjoyed very few of the privileges of education possessed at the present day; she may never have spent an hour in a fashionable boarding-school, nor have known the names of even a fiftieth part of the studies, which enter into a course of modern female training. Still, she was well educated, perhaps self-educated; at any rate, so educated, as to know how to think, observe, compare, reason and converse, and to perform, with propriety and usefulness, the duties of her station. And this, after all, is the proper idea of education. It is not to fill the mind with notions, or to pass a great number of studies under the eye, which never find their way to the understanding and the heart; but it is, rather, to discipline the mind, to draw forth and strengthen its faculties, to form just habits of observation and reflection, and thus to qualify one for a right and successful discharge of the duties of life. This was an inestimable trait in the character of the virtuous woman. She had an intelligent well-cultivated mind. She opened her mouth in wisdom, and in her tongue was the law of kindness. She had good sense; she knew when to speak and what to say; her conversation was kind, instructive, edifying, such as drew around her pleasant and useful companions, and secured the respect and confidence of all who enjoyed her society.

I need not stop here to show how great an orna-

ment, and how rich a blessing to a female is a well-cultivated mind. It is an endowment which all should covet and strive to possess. It imparts respectability and usefulness to its possessor; qualifies for the duties of life, whatever they are, and opens innumerable sources of pure and lasting enjoyment. A woman who has a well-disciplined and well-furnished mind, possesses a power of influence which nothing else can give her. She may have wealth, she may have rank, she may have beauty and every outward accomplishment; but all are not worthy to be mentioned in comparison with a rightly educated and richly furnished mind. Nor do I believe that a woman in the possession of a mind, thus educated and trained, is ever less disposed or less qualified to perform her proper, domestic duties. Such certainly was not the effect in the case of the virtuous woman. Her mental endowments, far from unfitting or indisposing her to look well to the ways of her household, or to regulate with ease and readiness the affairs of the family, seem to have qualified her for a more cheerful, systematic and successful discharge of this part of her duties; and such, I have no doubt, is always the case, where the mind has been disciplined and trained under a judicious and well-conducted system of education. If ever the opposite effect is experienced, it must result, I am sure, from that showy, superficial, fashionable education, of which, it must be confessed, we have too great an abundance in our day.

I pass to notice another trait in the character of the virtuous woman; I refer to her neatness, elegance,

and taste. These are excellent qualities in the female character, and it is no part of true religion to neglect or disparage them. Certainly they were not disregarded by the woman whose character we are considering. It is said of her, that all her household are clothed in scarlet; that she maketh herself coverings of tapestry, and that her clothing is silk and purple. And when it is said, she considereth a field and buyeth it, and with the fruit of her hands she planteth a a vineyard, I cannot but think that she had a taste for a fine garden, that she loved flowers and shrubbery, and whatever might impart neatness and pleasantness to her habitation, and to the grounds around it. The things here referred to, though not of the first importance, are not always justly valued. There are some who would almost deem it a sin to gratify a taste for the neat, the elegant and the beautiful; and who, excluding attention to all that is refined and ornamental, would restrict our enjoyments to what is necessary for our subsistence. But if this is right, I know not why the Creator has implanted the principle of taste within us; nor why he has attired his whole creation in such countless forms of elegance and beauty, for the gratification of that taste; why he has painted the flower and given the rose its fragrance, and tipped the wing of the bird with gold, and filled the air with music. I read in this a proof of the Creator's goodness; and I find in it, an argument to justify and require a proper attention to neatness and taste in matters of dress and furniture, and whatever contributes to the beauty and comfort of

our residence. I often thought, while travelling in Syria and Palestine, that next to giving the people the pure gospel, a greater blessing could not be conferred on them, than by increasing their artificial wants fifty per cent.; making them desire better houses, better furniture and clothing, and more of the enjoyments and refinements of life. As they now are, they are satisfied with the mere means of subsistence; they have no stimulus to industry and enterprise, and, consequently, society, every where, wears the aspect of depression and decay. I am no advocate of excess in apparel. Extravagance and finery in dress I would censure and condemn. "A fop, or a belle, I would hold in steady contempt;" and I know well, that there is an attention to personal appearance, an enslavement to fashion and show, which are alike condemned by correct taste, good sense, and religion. But while I say this, I still plead for what I see exemplified and commended in the virtuous woman, — a due attention to neatness, to elegance and taste. These, you may call minor virtues, if you please, but they can never be disregarded or neglected without detracting greatly from woman's worth, and woman's influence. They are always to be classed among the excellencies of the female sex; they should be cultivated and cherished as an important part of female education; and every virtuous woman will seek to exemplify them, as far as practicable, in her person, in her manners, in her family, in her residence and furniture, and in all that pertains to the intercourse and civilities of life.

Among the excellencies of the virtuous woman, we of course expect to find personal piety. This was the crowning excellence of her character; the basis and support of all her other virtues. Hence, in reference to her, it is said,—favor is deceitful, and beauty is vain; but a woman that feareth the Lord, she shall be praised. Whatever other qualities a woman may possess, if she is destitute of piety, her character is defective in a most material point. She needs piety to eradicate and correct the weaknesses and faults of her natural character, pride, vanity, envy, jealousy, and the like. She needs piety as a stimulus to mental improvement, and to a proper use of her time, talents, and means of doing and getting good. She needs piety to qualify her for the arduous and difficult duties of her station, and to fit her for the peculiar trials incident to her sex. And more than all, she needs piety to restore her to the image and favor of God; to make her a new creature in Christ; allied to him by a living faith, and sealed an heir of heaven. Piety, indeed, seems peculiarly designed for woman; it is eminently adapted to her character and wants, and never does she appear so amiable, so attractive, and excellent, as when an enlightened Christian piety sits enthroned in her bosom, and causes the meekness, the gentleness, the lustre of divine love and heavenly hope to beam from the eye and radiate from the countenance. How lovely is such a woman; a woman who fears the Lord and rejoices in the Saviour; whose domestic virtues are pervaded by the spirit of the Gospel;

whose personal accomplishments are adorned by the graces of the Holy Spirit, and whose life is cheered by the presence of God and the hope of heaven? Truly such a woman is worthy of praise, and she shall be praised. External embellishments and the charms of beauty may be admired and extolled for a brief season; but they soon pass away as a fading flower; and in their best estate are utterly vain and worthless in comparison with that fear of the Lord, that true personal holiness, which is mentioned as the distinguishing excellence of the virtuous woman.

I must notice yet another trait in the character of this woman, — her charity, her beneficence. Though frugal she was not covetous; though industrious, she labored, it would seem, not to hoard up or to gratify a penurious spirit, but that she might have wherewith to relieve the wants of the needy and the suffering. She stretcheth out her hands to the poor; yea, she reacheth forth her hands to the needy. Far from confining her attention to herself or her family, she had a heart to sympathise with others, and a hand to minister to their necessities. Her own comforts and those of her household did not, as is often the case, make her the more selfish and hard-hearted, but served rather to warm and expand her benevolence, and send her forth, in the midst of all her occupations, and cares, and rank, and station, on errands of mercy among the poor and destitute. As a woman of piety she could not but remember the source of her blessings, and her responsibility for the use she made of them; and, moved by the love of God and her species,

she pitied the sons and daughters of want, and cheerfully stretched forth the hand of beneficence to those who were in less favored circumstances than herself. This, wherever seen, is a beautiful trait in the female character. The bosom of woman, especially when animated with the love of God, is peculiarly the seat of tenderness and love, of sympathy and kindness. She has a depth of feeling, and a patience, perseverance, and readiness in ministering to the wants and woes of her race, which are peculiarly her own; and called, as she sometimes is, an angel, she never so fully exemplifies that character, or deserves that praise, as when she is seen searching out the children of distress and need, and contributing to their relief and their comfort.

Such are some of the principal characteristics of the virtuous woman; and the portrait, though very imperfectly presented, contains much, I am sure, which we must all admire and love, and wish our daughters to imitate and possess.

Let us contemplate, for a moment, the influence of this character. In this view several things are mentioned in our text which claim our special attention.

1. It is said, the heart of her husband doth safely trust in her, so that he shall have no need of spoil. He was not disappointed in the choice of a companion. He found his expectations realized; and such were her industry, economy, and prudence in conducting the affairs of the family, that he could trust all his domestic concerns to her, with perfect confidence, that they would be managed in the wisest

and best manner. And thus he would have no need of spoil. His property would not be wasted or squandered by the improvidence and profusion of an idle, extravagant woman; and so he be compelled to have recourse to dishonest methods of getting gain for the support of himself and household. This is a matter of serious importance. Wo to the husband who has not a wife in whom his heart can safely trust, in regard to the management of his household affairs. Many a husband has been reduced to poverty by the improvidence and unskilfulness of an ill-qualified and indolent wife; and has been driven to dishonesty and wrong doing in order to sustain what was deemed a necessary style of living. On the other hand, many a husband has been made rich in purse, happy in heart, and respected in character, all his days, by the prudence, skill and good example of his wife, in managing the interests of the household. Comfort, neatness, peace and plenty crowned his board and blessed his habitation, just because there was one presiding in his family, well qualified for her station, and with whom he could safely trust all his domestic affairs.

2. It is said of the virtuous woman, that she will do her husband good, and not evil, *all the days of her life.* Here is indicated *permanency* of affection and influence; the constancy and continued development of good and useful qualities of character. Some wives do their husbands good a little while, and evil a great while. They seem very affectionate, interesting, and amiable, during the honey-moon, or the

first few months after marriage; and then for the rest, alas! they are like springs of water, full and flowing in the vernal season; but dry all away in the summer. And this, I suppose, is usually the case with such females as have received only a fashionable education, and whose chief recommendation is personal beauty and external embellishments. These indeed are vain and deceitful, especially when they cover a frivolous, empty mind, or a fretful, complaining temper; and the man who is deceived by them, will have time enough to repent, for he will repent all his life, after the few first days of his conjugal connection have passed by.

But the truly virtuous woman will do good and only good to her husband all the days of her life. She has substantial excellencies of character; is kind, intelligent, prudent, active, beneficent and pious; and these are qualities which do not pass away with youth and beauty, or with the fervor and rapture of first love; but they endure and brighten with growing age and passing years; the more they are seen, the more they are admired, and the more they win the confidence and love of him who is so happy as to be connected with a woman that possesses them. Amiable and interesting, of kind and excellent influence at first, she will become more and more so every year of her life; her conversation, her counsels, her example, her whole spirit, character and conduct will do her husband good, and not evil, so long as she is spared to him, his bosom companion and friend. And she will do him good, not merely in securing his

permanent affection and confidence; not merely in softening and refining his feelings, or in improving his estate, or in making a comfortable and happy home for him; but in elevating his general character, in fitting him to fill places of influence and trust, and drawing upon him the esteem and respect of his fellow-men. Hence it is said, her husband is known in the gates, when he sitteth among the elders of the land. The influence of such a woman is always, and in all respects, a blessing to her husband. Not a mere doll, to be admired by him a little while, and then neglected; not a toy, to amuse his vacant hours, or a slave, to subserve his wants; she is his counsellor, companion and friend; and it is her study and delight to promote his interests and his honor; to render him respected, useful, and happy: "not by fits and starts, or when in good humor: but all the days of her life, and even after he is dead, if she survive him."

3. The influence of the virtuous woman is eminently happy, not only as a wife, but also as a mother at the head of a family. Her children arise up and call her blessed; her husband also, and he praiseth her. In the midst of her household, she appears as a ministering angel. Intelligent, kind, assiduous, she watches over the interests and happiness of all included in the domestic circle; and that tongue of hers, in which is the law of kindness, drops as the rain, and her speech distils as the dew. She exerts a softening, subduing, transforming influence on all around her. Her children, educated under her wise

and pious care, trained up in the nurture and admonition of the Lord, learn to love, respect and honor her; they rise up and call her blessed; her wishes are their law, and her happiness their delight, and when she is gone, her name and her virtues are cherished in grateful remembrance, and descend as a rich heritage to her posterity.

Her husband too, he praises her. Sensible of her excellencies and her worth, he feels that in being connected with such a companion, the joys and blessings of his life have been doubled, and grateful to God for such a gift, he exclaims in gladness of heart, — many daughters have done virtuously, but thou excellest them all.

Nor is the influence of the virtuous woman confined to the circle of her own family. It goes abroad, as we have seen, searching out the poor and the needy, and extending to them the hand of relief. It diffuses light, and peace, and joy wherever it is felt; and it tells, with the happiest effect, on all the interests of the church, and of society. In every situation, and in every circle in which she may be called to move, the influence of such a woman, as has been described, is great and eminently happy. How kind and constraining is that influence when exerted by a sister in the midst of her elder and younger brothers? How benign and heavenly, how pleasant and soothing to the heart of a father and mother, is that influence, when it emanates from the bosom, and speaks in the voice, and beams from the eye, and lives in the kindness of a loved and loving

daughter? And how wide spread and beneficent are its effects, when it is embodied in the laborious, but honorable office of a teacher of the young. None can teach, especially their own sex, like pious, intelligent, well-educated females. They possess, in an eminent degree, those excellencies which constitute a good teacher. "Gentle, affectionate, and winning in manner; ardent, zealous, and persevering in effort; interesting, endearing, and impressive in their communications, their influence on the mind is peculiarly efficacious and transforming." There is no class of persons to whom the community is under deeper obligations of gratitude and respect, than to well-qualified, devoted female teachers. I might, if this were the proper place, name some of this class, who are exerting an influence that is felt throughout our country and the world, and will continue down to the end of time.

If we view the influence of the virtuous woman in relation to the cause of Christ, and the extension of his kingdom over the world, who can estimate the value or extent of that influence? The strength and spiritual fruitfulness of every church depends more on the pious females connected with it, than on the other sex. They are usually more numerous, and their piety, for the most part, is more uniform, affectionate, active and devoted. Ready unto every good work, is eminently characteristic of females who possess the character we have been describing. Their influence is powerfully felt in all the benevolent operations which distinguish our day. By their self-

denials, their charities, their prayers, their efforts, they are doing as much, and probably more, than the other sex, in spreading abroad the blessings of the Gospel, both in our own and in foreign lands; and in hastening on the day, when the whole world shall be filled with the knowledge and glory of God, woman, I cannot doubt, woman virtuous, intelligent, pious, is destined to exert a conspicuous, all-important agency. Well, then, is it said of the virtuous woman, she shall be praised. Her prudence, her economy, her intelligence, her kindness, her sympathy, her alms, and her prayers will return into her own bosom in the esteem, confidence, and love of all who know her. She lives honored and respected, useful and happy; and when she is dead, generations unborn read upon her tomb, "The memory of the just is blessed."

I have thus presented before you the inspired standard of female excellence. I have not aimed to sketch a fancy picture, or to draw a character so delicate and refined that few could hope to imitate or acquire it; or if they could, would not be better qualified, but the reverse, for the serious, every day duties of life. I have wished, with the inspired model before me, to present a character of substantial excellence and worth; such a one as all our daughters may cultivate and aspire to possess, and in the possession of which, they may be fitted to be useful and happy, in whatever station they may be called to move, may secure the lasting esteem and love of those with whom they may be connected in life, die in peace

and hope, and be honored with distinguished rewards among those who have done well, in the great day of account. The character presented, I am aware, is not altogether in keeping with modern taste and refinement. It has too much of the industrial, the economical, the solid, intelligent, and useful, to be pleasing to "this world's gay triflers." But I would not alter a single feature in it to gratify the taste of such triflers. The character I have sketched for the imitation of my fair auditors will last, be approved, admired, and loved, a source of pure, permanent enjoyment and hope, when all that is possessed by the gay and the giddy beauty, wit and outward embellishments, shall be found utterly vain and worthless.

No greater blessing could I wish for the daughters of America, than that they should be adorned with the character of the virtuous woman. Let them take the advice of the excellent Henry before adverted to, —"Open this looking-glass for ladies, and dress themselves by it; and if they do so, their adorning will be found to praise, and honor, and glory, at the appearing of Jesus Christ."

LECTURE II.

THE DUTIES

OF

EXAMINING COMMITTEES.

By PROF. E. D. SANBORN.

In the mind of every enlightened patriot, the elevation of our Common Schools is, intimately, associated with the progress of society and the perpetuity of our cherished institutions. It is now an admitted fact — the voice of history proclaims it — that New-England owes her unparalleled prosperity to the early establishment of free schools and churches in the British colonies. For this labor of love and patriotism we venerate the memory of our fathers. We look upon the Common School System, which they established, as among the richest legacies they have left us. We are now convinced that our success, nay more, our very existence as a free people, depends

upon the preservation and improvement of this priceless inheritance. The highest degree of civilization results from the union of piety and intelligence. Learning has ever been, and must ever continue to be, the handmaid of religion. Wherever they are divorced, the common mind becomes degraded, and religion degenerates into bigotry or superstition. Wherever free schools and free churches have been established among the nations of Europe, their influence is exhibited in the superior intelligence and thrift of the people. Catholic and Protestant countries, lying side by side, resemble the divisions of Egypt occupied by the Egyptians and Israelites of old. In the Goshen of Protestant Europe there is light; in Catholic Egypt, darkness, gross darkness, darkness that may be felt, covers the people. The great principles which Luther advocated, liberty to think and liberty to read, are felt in every department of business and of state; in the public marts and in the family circle; in the consecrated church and at the domestic altar. The intelligent traveller reads the history of educated, enfranchised mind in the culture of the very soil on which he treads, in the structure of the houses and the costume of the inhabitants. In every country, the school-house and church edifice are the true indices of national prosperity. Where these buildings are suffered to decay and to become untenantable, no enlightened adventurer will seek a settlement. It is becoming the popular sentiment of New-England, that it is better economy to build commodious school-houses and

churches than spacious poor-houses and penitentiaries; better to pay teachers and school-superintendants, than judges and executioners. If we neglect our schools, we must enlarge our prisons; if we refuse to pay teachers we must pay officers of justice. Crime and ignorance are ever associated. Education, while it elevates and refines man's inferior nature, at the same time guides and restrains it. It is not pretended that education possesses any regenerating power. Its influence is chiefly preventive. It makes men *prudent*, not *holy*. It checks the natural propensities to evil, and fosters the amiable virtues. It begets a fear of legal penalties, and strengthens respect for law. It teaches the duties and responsibilities of a citizen. It reveals to him the inestimable value of a spotless reputation, and begets an abhorrence of perfidy and meanness. In a word, it is the voice of one crying in the wilderness of human passions, "prepare ye the way of the Lord." It is the herald of the religion of Christ; and, like that same heaven-born religion, is designed for the poor. The free schools of New-England are, to her, a crown of glory. The domestic circle and the common-school are the chief agents of New-England education. Under such influences are reared those men whose industry every where gives variety and beauty to the New-England landscape, and whose enterprise is limited only by burning sands and polar snows. In the same hallowed circles are trained those minds whose wisdom guides the councils of this great and growing people. The regulation and management of this

system of instruction, so wide, so expansive in its influence, embracing the best interests of our citizens for time and eternity, are, in a great measure, entrusted by law to the discretion of the superintending committees of the several towns. In most instances they examine and approbate teachers, prescribe books, supervise the schools, and report their doings to their constituents at the close of their official year. Of the duties and responsibilities of such committees, I propose to speak. The office is an important one, and requires qualifications of a high order. Every man who is called to examine teachers, ought, in the first place, to be thoroughly acquainted with the most approved methods of teaching the several branches of an elementary education. To say the least, he should carefully inform himself respecting the improvements introduced by experienced teachers, since the completion of his own scholastic studies. Within the last twenty years, the whole process of organizing, disciplining and instructing the District School, has been essentially modified, as we trust, for the better. The character of common schools has been elevated. Higher branches of study are now pursued. Economy of time and labor has been sought by the introduction of new processes of teaching and classification. Many simple and convenient articles of apparatus have been employed for illustrating the branches taught. The committee should be familiar with these facts. Such knowledge is essential to a correct judgment of the qualifications of the teacher and the progress of the school.

Examining committees should also have an extensive acquaintance with text-books. The law in many States requires them to prescribe the text-books for all the districts of the town in which they reside. How can this be done judiciously without an examination of the books to be used? It will not answer to trust to the recommendation of distinguished men. It is an easy matter to secure numerous testimonials to the value of almost any school-book that may be published. Indeed, every new book, of whatever character, has about the same number of commendatory lines, either prefixed or annexed to the body of the work. It is generally pronounced to be superior to any other work in the same department, to satisfy a deep-felt public want, and to be admirably adapted to produce the greatest possible results in the least conceivable time. The last new book,

"Like the Turk, allows no brother near the throne."

Its predecessors, in the same line of descent, must be strangled. A new text-book, like a newly-invented nostrum in medicine, hath a two-fold office. It comes to bury the dead, and to herald a new race. Many wise men regard the multiplication of school-books as a national calamity. A change of authors, like a change of teachers, always delays, for a time, the progress of thought. It is a very common occurrence for a new teacher to bring with him a new set of books. Many young men do this, either because they are importuned to do so, by the publishers, or because they have learned their own lessons from the

same books; and, consequently, do not dare to venture out upon an unknown sea, with new pilots. Many of these books may be superior to those last used in the same schools. Of this the committee must judge. It is not pretended that new books are always, or generally, an incumbrance upon the community, but frequently they are not what they profess to be. There have been undoubted and invaluable improvements in text-books within a few years. These improved editions should be adopted. The committees must make the selection, hence the necessity of an extensive and thorough acquaintance, on their part, with popular school-books. Without this knowledge, how can they distinguish the precious from the vile? or commend even the best text-book, with any degree of confidence, to the public? Besides an accurate knowledge of the most approved methods of teaching, and of the best school-books, the committee ought to be familiar with the qualifications and duties of teachers. They should form, if possible, an absolute standard in their own minds, by which the merits of candidates may be graduated. It were well if the qualifications of men for all official stations could be measured by such a rule; for, "they who measure themselves by themselves, and compare themselves among themselves, are not wise." It were well, therefore, for committees to form for themselves, a beau ideal of a good schoolmaster, before they sit in judgment upon candidates. Though a mere finite mind cannot comprehend the aliquid immensum infinitumque embraced in the ideal of a perfect teacher,

still by the constant addition of excellences and subtraction of defects, we may approximate a perfect standard. A good schoolmaster should possess a rare combination of excellent qualities. He needs all those exalted virtues which adorn the character of a faultless monarch, while he exhibits in practice, the patient industry and unquestioned fidelity of his humblest servitor. In him, profound knowledge should be blended with legislative prudence, judicial wisdom and executive energy. "A good schoolmaster," says Guizot, "ought to be a man who knows much more than he is called upon to teach, that he may teach with intelligence and with taste; who is to live in an humble sphere and yet have a noble and elevated soul, that he may preserve that dignity of mind and deportment without which, he will never obtain the respect and confidence of families; who possesses a rare mixture of gentleness and firmness; for, inferior though he be, in station, to many individuals in the community, he ought to be the obsequious servant of none; a man not ignorant of his rights but thinking much more of his duties, showing to all a good example and serving to all as counsellor, not given to change, but satisfied with his situation, because it gives him the power of doing good. A bad schoolmaster, like a bad parish priest, is a scourge to the commune; and, though we are often obliged to be contented with indifferent ones, we must do our best to improve the average quality." The more highly men prize the character and duties of teachers, the more careful will they be in the ex-

amination and employment of them. In every department of business, it is right to judge of men *pro meritis*. Every man should hold that station in society for which he is best fitted, by natural endowments and education. So say the wise and the good, and so they act. Hence, when an individual is proposed for a responsible trust, we soon hear, from thinking men, inquiries like these, "Is he competent? Is he faithful? Is he honest?" An affirmative answer to these interrogatories usually silences all objections. In the ordinary business transactions of life, men do not select their agents without regard to qualifications. No prudent mechanic employs a journeyman without some knowledge of his skill and habits. If a stranger offers his services, he examines him. He requires testimonials of his character and practical knowledge. If these cannot be had, he puts the applicant on probation. The farmer will not take a stranger into his employ without proof of his fitness for the contemplated service. He is slow to entrust the least important duties of agriculture to one of whom he knows nothing. If he has no other means of information, he questions the stranger. He inquires after his last place of residence, of his employer, of his success in business, of his method of executing particular processes of agriculture, of his habits in relation to food, drink and sleep. If the applicant seems honest, and gives promise of success in business, the farmer puts him on trial. After a suitable probation, he becomes the accredited and confidential agent of his employer. There is no department of labor or trade, in which

men of prudence are willing to employ agents without examination or trial. Is the office of a teacher, the guide of immortal minds, less important than the occupation of him "that holdeth the plough and that glorieth in the goad, that driveth oxen, and is occupied in their labors, and whose talk is of bullocks?" Are the paltry coppers which are saved to the farmer or mechanic, by the skill and prudence of his hired servant, prized more highly by him than the moral and intellectual culture of his children? The objects he so much covets here "perish with the using." The thoughts, feelings, and emotions, excited in the soul of the child,

"Wake to perish never."

Money, merchandize, riches in every form, last but for a day. They are frail and perishable. Decay and dissolution are enstamped upon them. Thought and affection, as well as the thinking and feeling agent, are undying, indestructible. The teacher gives a direction to the thoughts and affections of the young, which, possibly, neither time nor eternity may change. The current, once in motion, flows on forever. The least considerable attribute, affection or quality of the soul, of which we predicate immortality, becomes to the possessor a matter of inestimable importance, on account of its duration. To use the words of another, "Each soul has a pinion by which it may soar to the highest empyrean, or swoop downwards to the Tartarean abyss. In the feeblest voice of infancy, there is a tone which may be made

to pour a sweeter melody into the symphonies of angels, or thunder a harsher discord through the blasphemies of demons. To plume these wings for an upper or nether flight; to lead these voices forth into harmony or dissonance, to woo these beings to go where they should go, and to be what they should be, does it, or does it not, my friends, require some knowledge, some anxious forethought, some enlightening preparation"? No man will entrust a favorite horse to an unskilful or reckless driver; and yet, thousands of men, whom the world calls wise, will entrust their children, in the most susceptible period of life, when the soul receives impressions which can never be effaced, to men of whose character they know comparatively nothing, and whose competency has never been tested, either by themselves or their agents. The office of teacher has been undervalued. His influence for good or ill has not been properly estimated. His qualifications have not been suitably examined. The *wages* of the teacher have been more considered than his *skill*. Men ask oftener after the *price* than the *quality* of the service rendered. Instead of a thorough examination, the testimony of interested persons has been received as evidence both of fitness and aptness to teach. The moral character has often been overlooked. It should be placed above suspicion. The influence of the teacher is, perhaps, greater for the time, than that of parents. He is more feared, and his words and example make a stronger impression. To him are committed the highest interests of the community. The heart, the

head, and the health of the young are entrusted, unconditionally, to his care. He moulds the affections, manners, tastes and intellectual character of the rising generation. In a word, the office of teacher yields to no other, in influence and responsibleness. It is certainly important that we should have virtuous and intelligent rulers; but it is infinitely more important that we should have a virtuous and intelligent people. It is the imperative duty of freemen to see to it that those "who govern men and guide the State," should be distinguished for their righteousness and truth. It is certainly no less their duty to see to it, that those who train up the young both for the councils of state and the duties of the citizen, should be wise men, fearing God and working righteousness. Fidelity in public servants is secured only by a rigid supervision of those who delegate the power. The zeal of the servant is usually measured by that of the master. The fidelity of an agent is proportioned to his own accountability and the enlightened interest of his employer. Some men, moved by high and holy motives, without advice or supervision, conscientiously perform their whole duty; but most men, while discharging a public trust, will put forth just so much mental and physical effort as will shield them from public censure, and *no more*. Without oversight or admonition, the zeal of the public servant declines, and his high standard is abased. Hence the necessity of a strict inquiry into the qualifications of teachers, and of an exact supervision of their labors. The schoolmaster is the professional agent

of a district, employed to discharge a duty which his constituents cannot perform, either from want of time or the requisite qualifications. He ought to be the confidential agent of every family from which he receives pupils. "Confidence is a plant of slow growth." It can spring only from personal acquaintance, or from the testimony of competent witnesses. If this confidential agent never meets his employers, is never questioned in regard to his qualifications or success; if he is left to pursue his own course, without commendation or censure from those most interested, he must be an enthusiast in his profession, if he can, under such circumstances, become deeply interested in his school. To labor successfully, a teacher must have the sympathy and active co-operation of his patrons. In politics, they say, "Eternal vigilance is the price of freedom." In schools, we may say, with equal emphasis, eternal vigilance is the price of success. Neither the teacher nor his employers can keep alive a proper interest in their respective duties, without a mutual knowledge of each other's wishes and plans, and mutual sympathy and aid in the execution of them. Whatever reasons exist for the strict examination and careful supervision of other public functionaries, exist a thousand-fold stronger in respect to teachers of youth. The *candidate himself, the pupils* he is to instruct, and the *public* who employ him, are all deeply interested in the matter. It is all-important to that young man who undertakes the duties of a teacher before he is qualified, to be early informed of his incompetency.

If he fail in the discharge of an office voluntarily assumed, such a failure may injure his prospects for life. It seems to be a very simple business to teach a district school, and yet few do it well. If a young man can teach a school well, he can do almost any thing well, which he would be likely to undertake. Success in the control and management of young minds, indicates a mind fitted to counsel and guide men in the great school of active life. In most cases, a failure in teaching marks some radical defect in the experimenter, and augurs ill for his future prospects. The people so understand it, and an ejected schoolmaster is among the last to be invited to places of honor and power. They argue, and with justice, too, that if he has not sufficient energy and decision to control boys, he certainly cannot control men. Hence the direction of Quintilian is a wise one. "De pædagogis hoc amplius, ut aut sint eruditi plane, quam primam esse curam velim, aut se non esse eruditos sciant." The truly educated teacher fears no test of his talents, no scrutiny of his labors. The sciolist and pretender to knowledge ought to be seasonably disabused of his false notions, and remanded again to the elements. Let him first learn to obey before he assumes to rule. A prompt rejection of an incompetent candidate is the greatest favor a committee can confer upon him. He will thus be spared the mortification of an expulsion from the school, and escape the lasting disgrace of inefficiency. It is also important to the pupils that their teacher should be thoroughly examined and approved. A knowl-

edge of this fact will command their confidence in advance for their instructer. He thereby assumes a higher stand in the school, at his entrance, and holds from the beginning, a higher place in the esteem of his pupils. They will respect the head which the wisest in the town cannot puzzle, and they will yield a more willing obedience to one whose qualifications for teaching are placed above reproach. But little knowledge can be imparted by the best educated teacher, if he fails to secure the confidence of his scholars. Says Niebuhr, "'The words of Pyrrhus, to his Epirots, 'Ye are my wings,' express the feelings of a zealous teacher towards pupils whom he loves, and whose whole souls take part in his discourse." So long as this mutual confidence and sympathy exist, the school will prosper; but if a man, by his want of tact or knowledge, subject himself to the contempt of his pupils, he can never recover from it. If they lose their respect for their teacher, he will lose his control over them. When a school has once triumphed over an incompetent or inefficient master, the moral feelings of those scholars are injured beyond remedy. The influence of a successful school rebellion, will be transmitted for years, and the poison will lurk in the veins, long after the fear of the rod has driven it from the head. Tradition will perpetuate the evil, and the sons and grandsons of rebel sires will be stimulated to heroic deeds, by the rehearsal of the achievements of their fathers. Parents, therefore, have a deep interest in the critical examination of teachers and the careful supervision

of schools. When an incompetent teacher is once installed in office, it is difficult to eject him. The business of prosecution is an ungrateful one. No individual is willing to bear the odium of commencing it. Besides, the teacher, however inefficient, will have his partizans and personal friends. He is, perhaps, a relative or protegee of his employer. He may be connected with influential families, who are interested in his success, and whose displeasure few would dare to encounter. The breaking up of the school is, in itself, an evil to be deprecated. All have made their plans to correspond with the limits of the school. The temporary suspension of it, therefore, interferes with every man's domestic arrangements. Hence, most men prefer to bear their present ills rather than fly to others they know not of. They submit to a loss of privileges rather than disturb the existing order of things. But "the more excellent way," both for avoiding these evils and preventing district feuds, is to exclude inefficient and illiterate teachers from their schools. This subject has a more intimate connection with the well-being of society than is generally imagined. Scholars can not respect an ignorant or stupid teacher; and, they manifest a wonderful instinct in judging of character. A spirited horse, it is said, knows his rider as soon as he takes his seat and draws in the reins. We should not expect children to be less acute in discerning the peculiarities of their masters. They *do* form their opinions almost at sight. They soon learn whether they can impose upon a teacher with impunity. If

they succeed in their first experiments, a spirit of insubordination soon follows. This begets a general disregard for all wholesome restraint, and the very worst vices of society frequently have their origin in the school-room. "Few things," says an eminent writer, "can indicate a worse condition of public sentiment, or portend greater calamities to the State, than that schools, the very places for cultivating self-restraint, order, decency, and a regard for all the proprieties of life — should be converted into nurseries of a rebellious spirit, an arena for the conflict of force against force, and the triumph of physical power over law."

To secure good teachers, bad ones must be rejected. The qualifications of candidates can only be known from undoubted testimony respecting their former success, and from rigid examinations. The present condition of our country renders it impossible, in all cases, to secure trained teachers. Discretion must, therefore, be used in selecting the best qualified of those who offer their services. As a general rule, those who have enjoyed the best advantages themselves, will be the most competent to impart instruction to others. Superior scholarship is not sure evidence of fitness to teach. Some young men of high literary and scientific attainments are destitute of that peculiar tact in management, and that instinctive adaptation of means to ends which have ever characterized the most successful teachers. Though we would not assert with Dogberry, in the play, that "to read and write comes by nature," yet we do affirm, without fear of contradiction, that some of the

essential attributes of a good teacher do come by nature. All men cannot be good preceptors. Some are disqualified by *temperament*, some by *physical inefficiency;* others by a radical disrelish for the duties of the office. An irritable and passionate man can be qualified for such a calling only by the grace of God. Neither grace nor art can supply the want of bodily energy and force of character, where they are wanting. An acknowledged aversion to the employment ought to disqualify any man for teaching, however exalted his talents may be. Some men of sound learning, possessing a strong love of the profession, still lack the physical energy necessary to the efficient government of a school. No mere literary excellence can compensate for such a defect. On the contrary, if a man is "apt to teach," if he possesses energy of character, ingenuity and perseverance, though his intellectual furniture be somewhat scanty for the calling, there is hope of his success, there is even more hope of his success than of the man of high attainments, who lacks those essential elements of a good teacher, which are included in the phrase "common sense." "The most imperfect arrangement for providing teachers," observes a distinguished scholar, "is that which requires an examination *merely into the knowledge of the candidate, in the branches to be taught.* This is specially imperfect in the case of elementary instruction, where the knowledge required is small in amount, and where the art of teaching finds its most difficult exercise. The erroneous notion that an individual can teach

whatever he knows is now generally abandoned; and, in those countries, which still adhere to the old method, of depending solely upon examinations for securing competent teachers, examination is made not only into the acquirements of the candidate, but of his ability to give instruction." The committee who examine ought, therefore, to ascertain as far as possible, of each candidate, whether he can skilfully impart instruction. This is far more important than to inquire merely into his intellectual qualifications. Though we do so confidently affirm that the power of controlling young minds, the ability to win their love, the affectionate earnestness and energy of a good teacher are, in a measure, the gift of God, yet we do, with equal assurance, maintain that nature can accomplish but little without the aid of art. What Horace affirms of the poet is equally applicable to the teacher;

> ——— "Ego nec studium sine divite vena,
> Nec rude quid possit video ingenium: alterius sic
> Altera poscit opem res, et conjurat amice."

The art of teaching, in its most important processes, is not instinctive. Like other arts, it is acquired by discipline and painful effort. The youth who purposes to become a teacher of district schools, ought to receive his own education in part, in the district school. He there becomes acquainted with the character of the subjects he is to rule, and if well instructed, learns how the work should be done. The teacher who has been educated wholly in higher schools, is apt to lose his self-possession amid the

greater confusion and disorder of a town school. It will, in that case, require more time and experience to enable him to control his pupils, and to class them with discretion. In every art, it is worth something to the beginner to have witnessed the execution of its most difficult processes, with an observing eye. In the examination of teachers, most committees are satisfied with the candidate, if he furnish testimonials of character and qualifications, and sustain respectably a mere literary examination. To be sure, it is the duty of the committee to become acquainted with the attainments of the applicant in science and literature, still this is but a part of their duty. It is of little use to a school for a teacher to possess knowledge, if he wants the disposition or ability to impart it. But it may be urged that there is a practical difficulty in learning of a stranger his own moral constitution, his aptness to teach, and his ability to govern others. This difficulty, I think, will vanish in the hands of a competent committee. The truth respecting these points can be elicited; and, out of his own mouth, the candidate may be approved or condemned. But it may be asked, how can the moral, social and practical traits of the applicant be drawn out? In the same way in which we discover his mental condition, by questioning him. He presents himself before the committee for that very purpose. He expects to be questioned in respect to every thing pertaining to his vocation. How then shall the examination be conducted? I cannot, of course, speak authoritatively, on a subject so complicated, where dif-

ferent examiners would, from principle, pursue different courses, and where no system of rules could possibly suit every case. In some instances, the examination should be wholly interrogative. Leading questions should be avoided, that the candidate may depend entirely on his own resources. Where he is thoroughly prepared by discipline and experience, the only object of the committee is to elicit the facts. In another case, where the person who proposes to teach is well prepared in point of scholarship and morals, but needs experience, the examination should be, to a considerable extent, *suggestive*. Many hints may be thrown out in regard to the best methods of teaching the various branches required, and concerning the classification and government of the school, which would be of great advantage to the inexperienced teacher. In order to ascertain his aptness to teach, it is certainly safe to ask him *how* he would teach the several branches of a common school education. If I supposed the teacher would be required to teach the alphabet, my first question would be, "How would you teach a child his letters?" Would you begin with words or alphabetical signs? If he says, with the latter, I would call for the particular process. Would you teach the letters, one by one, or give the names of the whole alphabet at once? Would you adopt precisely the same method with every child? If he prefers to employ words instead of letters, I would still ask for his method, and after ascertaining his views, if I had a preference for either method, I would say so, and leave him to

his own reflections. I would then proceed to the common use of the spelling-book. I am aware that many distinguished educators object to the employment of this old and way-worn pioneer of New-England education, and consider it as a dead weight upon the soaring pinions of young America, still, as the book is extensively adopted, both on account of its cheapness and because it contains a mass of information not equally accessible in any other form, it is wise to examine teachers in respect to its use. My first inquiry would be, what use would you make of the spelling-book in school? Then, more specifically, how would you teach the sounds of the letters, punctuation, Roman notation, abbreviations, spelling, &c. If I could suggest any improvement in regard to his method, I would do it, and then pass to other topics, such as reading, defining words, &c. In schools of advanced pupils, and, in general, in all our large winter schools, the teacher ought not only to be thoroughly versed in those important branches, usually taught, such as arithmetic, geography, and grammar, but he ought to be acquainted with the most approved methods of teaching those branches. I should wish every candidate to state fully his method of conducting recitations in those sciences. If he knows *how* to teach, he can explain the process. If arithmetic be the subject of examination, such questions as these might be useful: How do you teach addition? How explain the process of carrying one for every ten? How do you show your pupils the reasons of each rule? Do you require them

to learn the rules from the book or to derive them by induction from the examples you give them? What use would you make of the black-board? Would you desire any other apparatus for beginners, or employ any sensible objects to illustrate the relations and properties of numbers? Would you class your pupils in this branch, or attend to each man as his difficulties occur? In connection with his answers, the suggestions and comments of an intelligent committee would be of great service to young teachers. I would pursue the examination in geography, grammar, and other branches, by similar interrogatories, endeavoring to shed new light upon the subjects investigated, while eliciting the responses of the applicant. In examining a teacher in English grammar, I should not be so solicitous to test his skill in solving enigmas in language, or in disposing of anomalous phrases and constructions, according to some arbitrary rule, as to be assured of his ability to analyze and explain mere prose. Instead, therefore, of puzzling the candidate with the involved, inverted and obscure sentences of Milton or Young, or with the abstract and philosophic dicta of Pope's Essay on Man, I would begin with the simplest elements of grammar, and ask for his mode of teaching the parts of speech; and from the definitions, I would pass to the analysis of easy sentences, requiring him to name the words that indicate the action, the agent, the object, and the modifying circumstances of the action. From these, I would pass gradually to the more difficult combinations of the language. If the person ex-

amined, could not readily parse all the hard words proposed, I should not consider this an insuperable objection, if he seemed familiar with the principles of the science, and apt to communicate his own knowledge to others. In all those branches, in which authors have very kindly furnished questions, commentaries and keys for the use both of teachers and pupils, I should be exceedingly anxious to know how the teacher would use such miscalled helps. If he proposed to confine his instructions to the reading of the questions from the text-book, and hearing the words of the author repeated by rote, in answer, I should have no hope of his awakening any zeal or inspiring any love of learning in his classes. Such a teacher is little better than an automaton. If he cannot originate questions and explanations of his own, he is not fit to teach. To ascertain the moral bias of the candidate, I would ask such questions as these: What measures will you adopt to teach Christian morality? How will you inculcate a love of truth? How promote a reverence for God and his law? How would you set forth the importance of purity of thoughts, words, and actions? On the contrary, how would you correct the vices of lying, profanity and obscenity? A very few answers to such questions will fully reveal the character of the teacher. If he has no settled convictions on these points, his embarrassment and confusion will betray the defect, and give the committee occasion to *advise and admonish* him, or, if they please, *reject* him. The tact and skill of the candidate may be learned by ques-

tioning him upon the organization, classification and government of his school. Many a young teacher would be puzzled if this simple question were put to him: What would you do first, on entering the school-room? Others, again, would be equally perplexed if asked whether they would enact a code of laws for the government of the school, or, in every case of discipline, appeal only to the conscience of the wrong-doer. The answers to such questions would not fail to reveal the tact and skill of the teacher, if he possessed them, and, if he did not, the want of them would be the more evident.

The manners of candidates also deserve some notice. As he is to be the model for his pupils in conversation and deportment, it is desirable that he should not only use correct language, avoiding vulgarisms, but that he should be affable in his address and graceful in his carriage. In short, he ought to be, in all respects, a Christian gentleman. If it is understood that the public sentiment calls for refined discourse, agreeable manners, and a dignified deportment in teachers, this very demand will make the candidate more studious of the graces and amenities of social life, and tend greatly to the general diffusion of courtesy and civility throughout the land. This subject has received too little attention from practical educators. The moral influence of refined manners and elegant diction has been too often overlooked, in those countries where the parochial system of schools prevails. "In Scotland," says a writer in the Foreign Quarterly Review, "where they long delighted

themselves to make loud boasts of their parochial schools, the 'dominie' was, and in a great measure, is, the lean and meagre product which the neglect of a money-making population, the shabbiness of a game-preserving aristocracy, and the jealousy of a half-educated church, have starved out of all fellowship with living society, and banished from every possible contact with politeness." Such vulgarity and surliness as are here described, or such as are still more graphically portrayed by Scott and Dickens, in the persons of Dominie Samson, and Old Squeers, have probably never been seen in the United States, since the death of the prototype of Ichabod Crane. A majority of our teachers are young men. Many of them have never enjoyed the advantages of refined society, and, of course, have failed to acquire that polish of manners and conversation which always gives grace and ornament to learning. Though awkward manners and vulgar discourse might not incapacitate a young man for the office of teacher, still they would prove a great obstacle to his success. External accomplishments furnish a valuable capital to the adventurer in any department of business or in any profession. Politeness is a cheap commodity, but it seldom fails to bring rich returns of respect and affection. Of the manners and discourse of teachers, it is easy to judge from a single interview.

Every teacher should know something of physiology. He should have some general knowledge of the tabernacle which holds the immortal spirit. He should be competent to guard the health of the pupils

committed to his care. He should be able to point out to them the effect of confined and cramped positions of the body in study, to explain the danger of overtasking the brain, in cases of precocious development, and the necessity of combining, in proper degrees, exercise and study. He should know how to regulate the temperature and ventilation of the school-room, and prevent sudden transition from cold to heat. He should be able to give judicious advice in relation to clothing and exercise. By so doing, he may prevent many a fatal cold, and many a disease. Let the committee, therefore, question the candidate respecting the best method of restoring the purity of the air, where no provision has been made for ventilation in the construction of the house, or the precautions necessary to be taken, by pupils, in passing from a warm room into the cold air, also respecting the best mode of spending the times of recess and intermission. The more extensive and accurate his knowledge of these points, the better is he prepared for his office. In regard to the great conditions on which health and life depend, it cannot be said,

"A little learning is a dangerous thing,"

for, here, every item of intelligence is important. "The happiness of thousands of men and women," says the Secretary of the Massachusetts Board of Education, "has been destroyed from not knowing a few of the laws of health, which they might have learned in a few months; — nay, which might have been so impressed upon them as habits in childhood, that they would never think there was any other

way." Other topics might be alluded to, but I forbear, lest I should be tedious. I will notice a single objection to the minute and protracted examination recommended. It is said that men cannot be found who will perform the duties of the office. This objection has weight, so long as the community remain in their present comparative indifference in regard to the condition of our common schools. But we hope for better times. A new day is dawning. The public is becoming convinced of the necessity of a higher standard of education. In the darkest times, some good men can be found who will labor for the public good without reward or gratitude even. When the subject becomes popular, as it certainly will, love of fame and a desire to lead in the great and important measures of society, will enlist the sympathy and active co-operation of another class of efficient and energetic men. When the cause of education assumes its proper rank in the country, the public will not grudge the proper pecuniary reward for all necessary labor in their service. What we most need now, is an elevated public sentiment to carry forward those reforms which wise and good men have introduced. Among other contemplated improvements, the work of thorough examination of teachers, will be done, and well done, when its importance is duly appreciated. Able and efficient public servants can always be found when there is a demand for them. In the old countries of Europe no difficulty is experienced, in securing trained teachers of the highest intellectual and moral qualifications; and they all

pass the ordeal of a rigid examination. When a teacher is placed in a school by the constituted authorities of the land, every parent and every scholar feels an entire confidence in his fitness for the station. They know that he has been thoroughly instructed in the theory and practice of his profession, and that he holds his station by virtue of his superior acquirements. Incompetent teachers are *uniformly* rejected. This being well understood, prevents many improper applications, and diminishes the number of unsuccessful candidates. The same efficiency in our own common-school system, may be secured, *whenever the people will it.* Let them be convinced of the value of good schools, and they will have them. Let them see the influence of a thorough examination of teachers upon the elevation of their schools, upon the progress of their children in learning, and upon society at large, and they will not only appoint the best men for examining committees, but they will insist on paying them for their services. At present, that love of independence which so strongly marks the American character, operates against the rigid examination of teachers and pupils. Some people seem to regard the interference of a committee with the affairs of a particular district as an encroachment upon their rights. Accustomed to think and act for themselves in all other matters, many men prefer to choose their own teachers in their own way. A *long* school is, with them, equivalent to a *good* school; hence an increase of wages for a better teacher, or the subtraction of a small pittance of the money to pay for the

examination of the teachers, and supervision of the school, is looked upon as a positive abatement of the privileges of their children. Accordingly, the services of the superintending committee are dispensed with, or rendered nugatory by public opinion. Before the great mass of freemen in our land, will attempt to elevate the character of our schools, they must be convinced that their dearest interests are at stake. They are now *indifferent* because they are not properly *enlightened.* If the press would exhibit, in behalf of education, a tithe of the zeal which is exhibited in public contests, the reform would be accomplished, during the official life of a single President. The press must be enlisted, more fully, in this enterprise. The voice of the lecturer must be heard in every church, public hall, and school-house in the land. State, town, and county conventions must be held, and local associations organized, for the diffusion of light, and the correction of popular errors. Normal schools must be established, and teachers of a higher order sent forth. *All this can be done.* It *must* be done; and other improvements will then follow. When the community call for higher qualifications, and greater fidelity both in committees and teachers, their voice will be heard. Competent agents will be found, and the standard of education will be raised. Then will the declaration of the prophet be literally fulfilled: "Many shall run to and fro, and knowledge shall be increased." If I were asked to select from the world's history a model of tutorial excellence for imitation, I would mention the

name of Thomas Arnold. He exhibited, in practice, all the excellent virtues of a faithful, accomplished, *Christian teacher.* He loved his profession. He understood its duties and responsibilities. He was *earnest, persevering, decided, independent and high-minded.* Arnold trained young men not merely for the employments of earth, but for the service of Heaven. Every thought, word, and action of his, seemed to be baptized in a spirit of devotion. Every page of his biography rebukes the *negligent, worldly* and *infidel* teacher. Few teachers can read it without self-reproach. The silent page speaks to the conscience, with the directness, earnestness and authority of an impartial judge. Whoever reads his letters, will feel humbled on account of omitted duties, and quickened to renewed diligence. Since the days of Roger Aschan, England has not produced an instructor of youth like him. He has now gone to the great Teacher, and "Judge of the quick and the dead," to receive his reward; but his example yet lives; and thus, "he being dead yet speaketh."

"Lives of great men all remind us
We can make our lives sublime;
And, departing, leave behind us
Footsteps on the sands of time;

Footsteps, that perhaps another,
Sailing o'er life's solemn main,
A forlorn and shipwrecked brother,
Seeing, shall take heart again.

Let us then, be up and doing,
With a heart for any fate;
Still achieving, still pursuing,
Learn to labor and to wait."

LECTURE III.

ON THE

BEAU IDEAL

OF

THE PERFECT TEACHER.

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I HAVE sometimes endeavored to picture to my mind a beau ideal of the perfect teacher, as Cicero did of the perfect orator, and as St. Paul did of the perfect Christian. It is, indeed, easier to portray the image than to find the original; far easier to form the conception, than to exhibit the reality; and the most accomplished teacher will doubtless be obliged to contemplate, with much humility, the model which his own fancy may sketch, when he compares with it what he actually is. Still, the contemplation of such a model is not without its use. It is like the ideal standard which dwells in the mind of the painter or the sculptor, which, however the highest

efforts of art may fall short of actually reaching it, will still impart richer tints to the pencil of Titian, and softer graces to the chisel of Canova.

The portraiture of the perfect teacher which I propose now to attempt, will be of the most general kind, — one that will apply, in its main features, to all whose profession it is to communicate knowledge, whether in the character of the teacher of a common school, the preceptor of an academy, or the professor in a University. We may contemplate the characteristics of the perfect teacher under five general heads: the knowledge he has of his own subject — his knowledge of kindred subjects — his intellectual qualities — his moral qualities — his manners and knowledge of the world. Let us inquire then,

1. *What knowledge the teacher requires of the particular subject which is professionally his own.*

The knowledge of any subject in which one undertakes to give instruction must have at least two qualities — it must be accurate, and it must be extensive.

In the first place, his knowledge must be *accurate.* I do not refer so much to errors of opinion as to errors in matters of fact, — to what are properly called mistakes. Whatever indulgence may be conceded to instructors in regard to their peculiar prejudices or opinions, no allowance can be made for ignorance or carelessness. These are qualities which are wholly incompatible with the very idea of the instructor — a professed dispenser of truth. In arithmetic, algebra, or geometry, or in any of the exact sciences, he must

never commit a mistake, in either his statement of principles, or solution of problems. In matters of fact, also, whether pertaining to history, geography, statistics, or the news of the day, he must always be right; right in his statements, and correct in his answers to his pupils, whatever inquiries they may present to him, whether of little or of great importance. Accuracy must be the settled habit of his mind, a love of truth to a hair's breadth. Nothing else can become the professed disciple and dispenser of truth. Nothing else can command the unwavering confidence of the pupil. The character of the teacher is sullied by frequent mistakes, like that of a book-keeper, or a banker. It is surprising to see how soon even the youngest learner will lose his confidence and respect for his teacher, when he has detected in him occasional mistakes. At every such discovery, he rises in his own estimation, and the teacher proportionally sinks. The very character of the pupil is injured by such an incident. He rapidly loses the docility and modesty so essential to the scholar, and becomes uplifted with pride and self-importance. I have known an instructor, whose feeling of the importance of unerring accuracy to the character of the teacher, had become almost morbidly sensitive; so that he regarded a mistake on his part as sullying his character, almost like a lapse from female virtue, and an oversight comparatively trifling, would mortify and distress him for hours afterwards.

In the second place, the knowledge which the teacher has of his subject, must be *extensive.* I use

the word, however, in reference to the exigencies of each particular instructor. It is not necessary that the schoolmistress, who teaches merely spelling and reading, should be profound in geometry, or learned in history; but she must herself be an accurate speller and a good reader, and well acquainted with the rules for spelling and reading. The ground occupied by the teacher may be more or less extensive; but whatever it is, his attainments must be fully adequate to cover it. They must embrace not only a full and familiar acquaintance with the lesson, but a thorough knowledge of the subject itself. He must be able not only to solve any difficulty which the pupil may meet with in the lesson, but to answer any inquiries which may possibly suggest themselves to the mind of an inquisitive and ingenious pupil, without the immediate precincts of the lesson. Moreover, the respect of the pupil can hardly be secured, if he finds, when he has read his textbook, that he knows as much of the subject as his teacher, and that he has sounded the whole depth of his erudition. Those who are charged with the instruction of the more advanced class of students, in the higher branches of learning, have occasion for great attainments in their profession, reaching far beyond those which their pupils will make, in the ordinary course of their education. These, in our higher seminaries of learning, will generally be such as will require the best energies of a long life of study and reflection, confined to some single department of literature or science; since teachers of this class,

have not only difficult problems to settle for their pupils, but they are liable to be appealed to by the whole community, for solutions of questions, or for explanations of new phenomena of nature or art, which are supposed to belong to their respective departments. For several years, therefore, at least, a professor in any province of science or literature, will find time for little else than the exclusive study of the subjects of his profession. But, suppose him to have become master of this, so far as to be prepared for all its probable exigencies, well-grounded in all the topics of his recitations and lectures, well-informed in all points of his profession, on which he is likely to be consulted by his pupils or others, then an important question arises: — *Shall he go on, with an exclusive devotion to the subjects which fall technically within his own department, or shall he afterwards give a portion of his time to kindred subjects, and to general knowledge?* I answer, if his object is to make original discoveries in the line of his profession, or to gain fame and distinction abroad, then, it may be best for him to be the "man of one idea," and to know nothing else save the particular subject of his profession. Such a course will be the most likely of any to add to the sum of truth, and to gain him a deathless name. But, if his great object is to become an accomplished teacher, the question requires a different answer. My advice would then be this: Let your profession be the one great object before the mind; devote to it your best hours, and best thoughts, directly; but indirectly carry out the

same great purpose by paying, systematically, a certain degree of attention to kindred subjects, more or less intimately related to it. Let the profession itself be contemplated under the similitude of a river, broad and deep, but as constituted of many lesser streams, by whose confluence it has been formed, and is still fed. The right kind of professional enthusiasm is that, which is so engrossed with a main purpose, as to look at everything in the light of that purpose, and to give to every smaller stream such a direction as to swell the main channel. There are, however, two kinds of professional enthusiasm; one, limits itself to the subjects that technically belong to its own profession, rejecting every other species of knowledge as irrelevant, or even, in the littleness of views which such a spirit is apt to engender, as useless. The other turns every thing into its own channel, and guides all the remotest streams of knowledge into the main current. A mind thus swayed by some great commanding object, cannot be diverted from its noble purpose, however wide its range of study or observation may seem to be, since it contemplates all subjects in their relations to that purpose. Such is the professional character which Cicero has so finely portrayed in the consummate orator, or *summus orator.* The high-minded and aspiring youth, has ever before him the lofty image of the accomplished advocate. Happy if pure science has trained his mind to close and vigorous thought — happy if the material world has enlarged his soul, by her lo ty contemplations— happy if the classics have refined his diction, and

supplied that affluence of language, that *copia verborum*, so useful to the orator — happy if the Muses have warmed and exalted his imagination, and enlivened and purified his wit. From these ample stores, laid up in a well-spent youth, he may, when so pressed with the duties of an arduous profession, as to have little opportunity for the cultivation of general knowledge, draw his weapons, as from an armory, to invigorate his argument, to illustrate his subject, to embellish his discourse, to deepen his pathos. Every attribute of the scholar lends its aid to form the accomplished orator.

The ministry of the Gospel supplies a still loftier motive for professional enthusiasm, as the interests of eternity are above those of time. I love the preacher, such as Paul, whose high commission is ever full in his view. His range of study may be wide; his intercourse with the world extensive and free; his fields of usefulness varied; but he must have continually in sight the great end of his ministry, and make all things subservient to his main design. I accompanied such a man to a beautiful vineyard, where the vines were hanging with the richest clusters. With me he admired the skill of the gardener, and the beauty of the garden. He had a high perception of the beautiful, both in nature and art; but all his emotions ran at once into the same current. "Herein, (said he,) is my Father glorified, that ye bear much fruit." But a more delightful and striking example of professional enthusiasm, will readily occur in the recollections of an eminent divine, with whose

history most of those present are doubtless familiar. I allude to the late Dr. Payson. Amid the last throes of a terrible disease, he was carried to the communion-table, almost in his winding-sheet. There he preached his farewell sermon, and with a palsied hand broke to his flock the bread of life. As has been well said, "like the miser grasping his gold," he died grasping his treasure, bearing on his corpse a paper, pinned by his own direction on his breast, with this inscription, "Remember the words which I spake unto you while I was yet with you." When the heart is thus engrossed with some great and exalted purpose, which I have denominated professional enthusiasm, this purpose becomes the centre towards which every thing tends. It is a magnet of Herculean powers indeed, which collects, at once, its kindred metal, although scattered in particles among the sands of the sea-shore. What energy does this principle sometimes impart! A Carthaginian child is led to the altar by a revengeful father, and made to swear eternal hatred to the Romans. This purpose is cherished and fed by every device, until it infuses its unconquerable energies into the very life-blood. The child becomes a man, and in the prosecution of this purpose, how do the everlasting Alps melt away at his feet, and Rome's proud eagles cower before him!

Now the very thing which appears to me necessary, in order to exalt the profession of the teacher to its proper level among the learned professions, is that it be recognized as *one* of the learned professions — that the gift of teaching be recognized as a peculiar

talent, of a rare and exalted kind — and, to become an accomplished teacher be regarded, in itself, as a purpose worthy of the highest and noblest ambition. With such views of the subject, let us proceed to inquire,

2. *What knowledge the teacher requires of kindred subjects, or those not technically embraced within his own department, but more or less intimately related to it; and what acquisitions he ought to make in general knowledge.*

My remarks on this subject, will apply more appropriately to professors in the higher departments of science or literature, but will, I trust, have some useful bearing upon those whose labors are bestowed upon the more elementary branches of education.

In the first place, then, I hold that, in order to *understand* thoroughly any branch of science, it is necessary to know much, also, of various kindred sciences. Thus, no one can understand Chemistry well, without knowing something also of Mechanical Philosophy; and no one can be master of the mechanical laws of nature, without much knowledge also of the chemical laws. Each science has various relations to the other; and chemical and mechanical principles are often so intimately blended in the same phenomenon, either of art or nature, that its full and complete explanation must involve both mechanical and chemical considerations. Neither the chemist nor the natural philosopher, is competent, alone, to understand the steam-engine. The development of the power of elastic steam, is chemical; the applica-

tion of it to machinery, is mechanical. So in the explanation of almost any atmospheric phenomenon, as a tornado, the principles of both these sciences are brought into requisition. In a similar manner, it is impossible to gain a thorough knowledge of any single language, without some acquaintance with kindred tongues. It is superfluous to say that no one can understand the philosophy of language, without an intimate acquaintance with many languages.

In the second place, if it were possible to *understand* any individual branch of knowledge, without knowing also something of kindred branches, still, no one can *teach* well any branch of science or literature, unless he is a general scholar. Every literary teacher requires a mind disciplined by science: every scientific teacher requires the aid of faculties cultivated and enriched by literature. To the one, however, literature must be the great purpose, and science subordinate and auxiliary; and to the other, science must be the principal thing, while his literary and miscellaneous acquisitions, must be auxiliary to his main design. Whatever be a man's acquisitions in science, he cannot be an accomplished teacher unless he is likewise a scholar. Power to investigate truth is one thing; power to expound truth is another. The former is the gift of science; the latter, of literature. The accomplished teacher requires both. Even an instructer in the exact sciences, requires language to explain, as well as intellect to investigate. Nor is a cultivated taste entirely useless to him, since there is such a thing as a correct taste, and a certain

degree of elegance, even in the province of scientific demonstration. If he gives lectures on any branch of science, then he requires imagination to enliven and illustrate, taste to embellish, (for even the driest subjects admit of appropriate ornaments of diction,) and the graces of style and oratory to reach the affections of his hearers, or to win their favor. There is a mode of delivering instructions on such subjects as philosophy and astronomy, which interests the feelings, while it enlightens the understanding; which commends itself to the taste as well as to the intellect; which affects, at the same time, the head and the heart. There is another mode of communicating instructions on these subjects, which is dry and spiritless, or, (what is worse, where a just taste is wanting,) which is affected and bombastic. The intellect is chiefly concerned in the development and acquisition of truth; but the imagination has much to do with the art of communicating knowledge to others.

In the third place, an exclusive devotion to a single narrow province of human knowledge, is apt to produce limited and illiberal views with respect to the utility of other kinds of knowledge, and an incapacity to see or to appreciate the value of the labors of others, — a trait of character truly unworthy and despicable in a teacher of youth.

These are among the considerations which have persuaded me that, while we concede that it is important to the discovery of new truths, and to the enlargement of the boundaries of knowledge, that a class of scholars should devote themselves, with great

singleness of purpose, to the cultivation of very limited tracts in the great field of knowledge, it is still expedient that one, whose aim is not the fame of an original discoverer, but the character of the perfect teacher, should cultivate, with much attention, subjects kindred to his own, and should add to excellence in his own department, the graces of the general scholar. Let us now inquire,

3. *What are the Intellectual qualities of the perfect teacher?* The teacher must possess a mind at once strong and clear, a lively imagination, and good taste, and a judgment sound and discriminating; in short, a *well-balanced* mind, in contra-distinction to one characterized by the more brilliant attributes of originality, genius, or wit.

In the first place, we require a *strong* mind. I insist on this, in reference to every stage of education from infancy to manhood, and the earliest impressions are probably the most important of all. Much of education consists in the action of mind upon mind. Strong minds only can make strong minds. A teacher who gains a due ascendancy over the minds of his pupils, transfuses into their minds the qualities of his own, whether of strength or weakness. In regard to children, especially, the mind of the preceptor forms the model on which the whole intellectual structure of the pupil is to be built. Give me first the mother of vigorous intellect; not so much with the hope of hereditary endowments, as for the first leadings that are given to the ductile mind of infancy. Give me afterwards teachers, male or female, of strong original

faculties, still farther to shape and mould the flexible mind of childhood; and give me original thinkers — profound masters, — to impart the final cast and finish to the maturer mind of youth. If stron minds make strong minds, so superficial minds produce superficial. In the earlier stages of education, moderate *attainments* in the teacher may serve the purpose, but not a moderate intellect. The mother may be ignorant or unlearned, and yet have strong original powers of mind; or the mother may have much of the knowledge of the schools, or of the world, with a feeble understanding. My choice is decidedly for the former. Daughters like those are our corner-stones — better, indeed, if polished after the similitude of a palace; but unpolished adamant is better than burnished lead.

In the higher departments of instruction a profound mind is requisite, in order to meet the actual wants of the pupils, among whom there will always be some young men of first-rate minds, who will not respect an instructor, whatever may be his learning, or extent of attainments, if his original powers of intellect be inferior to their own.

In the second place, we demand a *clear* mind. Some have great powers of acquiring, but only feeble powers of communicating knowledge. Possibly their own perceptions may be so rapid, that they can never apprehend the slowness with which new ideas find their way into ordinary minds. Or they may be of the number of those whose thoughts flow clearly only in the solitude of the study, while the presence

of others always confounds and embarrasses them. Such may write, but they cannot teach. It is time that the gift of teaching were recognized as an original and peculiar faculty, depending on an original structure of the mind itself, which art may improve, but can never create. A talent for teaching is more rare than a talent for acquiring; and the gift of teaching, in its highest degree, I am inclined to believe, is among the rarest kinds of intellectual excellence, and equally with the gift of poetry, is "born and not made."

In the third place, a *lively imagination* and *good taste*, are useful elements in the character of the accomplished teacher. It is the province of the imagination to clothe with beauty and interest the naked conceptions of the intellect. It throws a charm around the driest subjects; it is fertile in illustration; and touches the heart, while reason addresses the intellect. Taste is an element of still higher importance. It is that quality which banishes from the character of the teacher every thing fantastic, odd, and eccentric in dress or manners, and imparts exact propriety and dignity. It is that which, when properly cultivated, gives the correct ear in music and poetry, the discriminating eye in painting, sculpture, and architecture. Above all, it is that which gives just and exalted perceptions of the beautiful and sublime in nature. We would, indeed, desire that the teacher who develops and trains the mind of man, in every stage of education from infancy to maturity, should be himself the pattern, the prototype, of that

finished elegance, which we should expect or wish the pupil ultimately to attain. To this end we demand that he should be a good model of all the proprieties of life, in person and manners; that he should have a nice discriminating judgment in all the fine arts, and a just appreciation of the spirit of the classics; that he should be himself a fine writer; and, finally, that he should be alive to all that is beautiful and sublime in the natural world. We demand something more than mere accuracy in syntax and prosody; we require feelings to kindle with the fire of Demosthenes, to rise with the loftiness of Homer, or to soften with the tenderness of Virgil. We seek for something beyond the classification and botanical names of plants, and the technical characters of birds and insects; we ask for the glowing lover of nature, who will communicate his own warmth to his pupil, as he leads him among flowers and groves, and views from the mountain-top the full glories of the landscape.

We have ventured the opinion that those intellectual qualities which constitute the well-balanced mind, are more desirable attributes in the teacher, than the more brilliant qualities of genius and wit. Genius is apt to be eccentric, implying some particular faculty in excess, incompatible with a mental constitution, where all the faculties are in harmonious equilibrium. Genius is impatient, and feels it a violence to be wrested out of its own particular line of action. It is original, and takes such delight in its own creations, as frequently to be fastidious when compelled to move in an old and beaten circuit; and it is often

deficient in that sound discretion, which is an element of supreme importance in the character of a teacher. Wit, if genuine, may seem a valuable quality, from its power to amuse and animate where there is so much to dispirit and depress; but it is a somewhat dangerous gift, and the preceptor ought especially to guard against that facetiousness, which is so liable to be mistaken for wit. The facility with which the school-boy laugh can be raised, often betrays the master into a false estimate of his power to amuse —

> "Full well they laughed, with counterfeited glee,
> At all his jokes, for many a joke had he."

But it is time to consider,

4. *What are the Moral qualities of the perfect teacher?*

We place in the foremost rank among the constituent elements of the perfect teacher, the faith and the benevolence of the Gospel. How low is the sense of responsibility which the instructor feels to the parent, or to society, compared with that which he ought to feel to his Omniscient Judge! How humble the estimate which *he* forms of the value of the treasure committed to his charge, who looks at it merely in the light of time, compared with his who views it in the light of eternity! One is training a being of earth; the other, a soul for heaven. The one educates for a mortal, the other for an immortal crown. The one is arming his pupil for the strife for wealth, for power, for fame; the other for truth, for liberty, for the universal diffusion of happiness among

men. The one teaches all for self; the other, all for society — all for God. The highest benevolence is the legitimate fruit of such a faith; and benevolence bears so large a part in the structure of the character we are attempting to portray, that, let us draw nearer, and view it in some of its more obvious relations to that character. What qualities in a teacher can compare with a warm heart, and generous affections! What enthusiasm is like that, which springs from a strong and earnest desire for the highest good and improvement of the pupil! Here is the true source of independence. It is the high prerogative of benevolence, and of benevolence alone, to inspire that moral courage, which can bear the loss of present popularity, of the favor of parents, of the attachment of the pupil himself, to do him good. I can find no other principle adequate to sustain us in the arduous and often thankless duties of our profession. No other principle can fully conquer that fastidiousness, which is apt to come over one in the constant reiteration of the same instructions. Benevolence never tires while she can feel that she is sowing the seeds of virtue in a genial soil, or pouring the light of knowledge into the opening mind of childhood and youth. The lesson heard, or the lecture repeated, a hundred times, inspires in the heart of benevolence an unabated interest, and awakens in the bosom of age, all the freshness and fervor of youth. It is my firm conviction, friends and fellow-instructors, — a conviction that has grown stronger with advancing years, that no other principle than this can be perma-

nently relied on to sustain the teacher through all his labors and discouragements. Compare benevolence as a principle of action, in the preceptor, with such selfish principles as may be supposed to reign in its stead, as ambition or avarice. Ambition looks not at the good of the pupil as an ultimate object, but at its own reputation and love of praise. Its tendency is to produce showy and superficial scholars. It is unsteady in its operation, and unfaithful to such pupils as do not promise, by their genius or learning, to increase its own celebrity; and it is here, as elsewhere, followed by its usual train of disappointment, mortification, and disgust. Nor is avarice a safer principle on which to rely. It is a cold and debasing principle, when it becomes the ruling passion of the instructor. When successful in gratifying its love of money, it ends in indifference to the cause of education, as well as to the welfare of its pupils; and when unsuccessful, it ends in discouragement and repining. But benevolence, like the magnet, loses nothing by what it imparts, but gains strength continually, as it is fed by its proper aliment, doing good.

Among the appropriate fruits of benevolence in the teacher, we recognize kindness, both in disposition and manner; habitual, but not affected, gentleness; the *sauviter in modo et fortiter in re.* Sternness has its place, but it is not habitual. Discipline can bear with what is childish, while it rebukes what is vicious; it can smile at what is playful, while it frowns at what is wicked. All good government is founded on fear; but perfect love casteth out fear. When

the pupil has once and early learned to obey from a dread of the displeasure of his preceptor, habit will make obedience choice, and authority will assume the gentleness of love. — Among the qualities of the accomplished teacher, I assign a high place to the sagacity which penetrates the peculiar disposition and genius of the pupil, and the skill which happily adapts to it a corresponding course of government and instruction. Sagacity and skill like this, are especially appropriate to those who begin with childhood. The accomplished astronomer makes it his first concern, to understand fully the mechanism and peculiarities of structure of the new and delicate instrument which he is to direct to the heavens. He studies the various precautions requisite in order to obtain the best results; he learns the nice adjustments necessary; and finally ascertains how the unavoidable errors, both of workmanship and of observation, are to be corrected, or allowed for. A nicer instrument, of vastly greater delicacy, is committed to the teacher in the mind of a child of genius; and happy is that mind which meets with a preceptor, who has discernment to understand its peculiar mechanism, and patience and skill so to manage it, as to shun the aberrations to which it is constantly prone, or to correct or allow for the errors which unavoidably occur. To that knowledge of human nature which is gained by personal observation, aided and directed by the precepts of mental philosophy, let the preceptor add a perfect discernment of all that is peculiar in the genius and disposition of his pupil,

and he will then be qualified to receive this wonderful piece of mechanism from the hands of its divine artificer. Such a teacher will not form his estimate of the child so much from what he actually is, as from what, by education and by grace, he may become. If his faculties are naturally weak, or dull, the case may, indeed, present real grounds for discouragement; but not so when his mind is active and strong, though his temper be selfish, obstinate, and proud, and his passions headstrong and vindictive. Unpromising as such a subject might appear, I verily believe that there is a kind of training that may be applied to that child which, with the blessing of heaven, will render it highly probable that he will become a virtuous and useful man. Does he burn with anger? Do not feed the flames by rebuking with anger. It is a *soft* answer that turneth away wrath. Is he selfish, let him taste the luxury of bestowing gifts; let benevolence take root in his heart, and be carefully nurtured; let the rose supplant the thistle. If you would not have noxious weeds grow and flourish, occupy the soil with plants of a nobler nature. One of the highest attributes of the teacher, as already intimated, is the sagacity to discover, and the disposition to foster, superior talents. What if they be concealed under an obstinate or sulky temper? A skilful treatment will free the compound from this base alloy, and separate the silver from the dross. What if they be mingled with vanity and self-conceit? Do not on that account repress the first aspirations of genius, but trust to time and skilful train-

ing to deliver it from such unworthy associates. It is related of the celebrated Dr. Busby, that he early espied the genius of South lurking under idleness and obstinacy. "I see, (said he,) great talents in that sulky boy, and I shall endeavor to bring them out." Genius, moreover, is often associated with feelings of extreme sensibility, and cased in a physical frame of fragile mould. It is the part of humanity not to wound that sensibility; and of skill, to strengthen, by proper physical training, that frail bodily structure. How often has early genius been withered and blighted by the severity of the master, which would have grown and blossomed sweetly in the atmosphere of gentleness and love! And how many a youth of noblest promise has sunk prematurely into the grave, consumed by the intensity of his own intellectual fires, for want of that physical culture, which would have expanded his chest, invigorated his limbs, and sent more swiftly through his vitals the languid current!

We come, finally, to consider,

5. *The value, to the teacher, of cultivated manners, and a knowledge of the world.*

In the first place, I would desire the instructor of my children to have the manners of a gentleman, for *their sakes;* because I wish them to have before them constantly a model which it is safe and proper for them to imitate, and because I wish to have them treated with that politeness and delicacy, which is to be expected only from the accomplished gentleman. On these points, I cannot but think that both parents

and instructors are often at fault. The idea that children have any claim to be treated with politeness, seems never to have occurred to some; and yet how obvious it is, that this is the true way to soften their dispositions, and to refine their manners. Again, how ruthlessly do we sometimes see the delicacy of children wounded and crushed, until nature comes to their relief, blunting their sensibilities, and hardening their hearts! There is scarcely any particular in which the habits of the nursery and the school-room, appear to me to call more loudly for reform than this.

In the second place, I would wish the instructor of children, and youth, to have the manners of a gentleman, for *his own sake*, since there is no other way in which he can enjoy that respect and consideration in society, to which the inherent dignity of his employment, and his talents and learning, would justly entitle him.

In the third place, I would wish the teacher to be a man of refined manners, and acquainted with the world, for the *respectability of the profession*. It has been too long the habit of society, to look upon the schoolmaster as a man whose ideas extended little beyond the declensions of nouns, and the conjugations of verbs; and too much the practice of comedians and novelists to represent him as a man of singular and antiquated dress, of grotesque manners, as stiff and pedantic, and as ignorant of everything beyond the narrow precincts of the school-room. Witness the pictures Sir Walter Scott has drawn, of Jedediah Cleishbotham, and Dominie Sampson. Nor could

he hardly refrain from indulging his humor upon the profession, in the character he gave of the very man who, he acknowledges, first taught him the value of classical learning — the celebrated Dr. Adam, Rector of the High School of Edinburgh. It was this accomplished instructor who first brought into full exercise the powers that afterwards, in the writings of the "Great Unknown," turned upon him the eyes of the whole reading world; and who, by his "judicious mixture of censure and praise, supplanted those habits of indolence and inattention," which, under a less skilful master, might have doomed the author of Waverley to a life of fruitless sloth, or senseless pleasure. Yet, in delineating the character of his benefactor, he adds: "Dr. Adam, to whom I owed so much, never failed to remind me of my obligations to him, when I had made some figure in the literary world. As Catholics confide in the imputed righteousness of their saints, so did the good old Doctor plume himself upon the success of his scholars in life, all of which he never failed (and often justly,) to consider as the creation, or at least, the fruits, of his early instruction. He remembered the fate of each boy at his school, during the fifty years he had superintended it, and always traced their success, or misfortunes, entirely to their attention or neglect when under his care. His noisy mansion, which, to others would have been a melancholy bedlam, was the pride of his heart; and the only fatigue he felt, amidst din and tumult, and the necessity of reading themes, hearing lessons, and maintaining some degree of order, at the same time, was relieved

by comparing himself to Cæsar, who could dictate to three secretaries at once; — so ready is vanity to lighten the labors of duty." We learn from the same authority, that when this great teacher was in the delirium that preceded dissolution, he conceived he was still in school; and, after some expressions of applause or censure, he said, "But it grows dark — the boys are dismissed" — and instantly expired. It gives us no very favorable opinion of the disposition of Sir Walter Scott, that he could speak in terms of such unkindness and disrespect of a preceptor, and expose the foibles of a benefactor, to whom not only himself, but the whole Scottish people, were under such immeasurable obligations.

But let us not close our eyes upon the faults to which the profession of the teacher is more or less subject, and against which, therefore, he has reason to guard himself. These faults, or foibles, are of two kinds; such as respect the mind itself, and such as respect the manners.

In the first place, the mind itself is in some danger of losing its strength and elasticity. As the intellectual powers are invigorated by the habitual contemplation of great objects, which constantly furnish it with new aliment, and new stimulus to thought, so they are weakened when exclusively confined to the constant reiteration of the simple elements of knowledge. In this process, not only is there wanting the stimulus of new and great ideas, but familiarity sometimes begets negligence; the grammarian of fifty may become less accurate and precise, than the grammarian of thirty. I know of no remedy for this

but to preserve the intellectual powers from such a tendency, by feeding them continually with what is new and great. Let the teacher of the simple rudiments of knowledge aim to be a scholar, in the largest sense, by expatiating in the wide fields of elegant literature, or in the higher walks of geometry or philosophy. There may, indeed, be some danger that the reiteration of the elements will become to him irksome and tasteless; but benevolence, an earnest desire for the improvement of his pupils, must preserve him from that. Again, the variety of elementary studies to which the preceptor of a large school is obliged to give his daily attention, has a tendency to debilitate the mind itself, and to leave it in so jaded a condition, as to disqualify it for any high intellectual effort, out of school. We can hardly propose an adequate remedy for this evil, except by changing the entire habits of society. Let the duties required of the preceptor be so reasonable, as to allow him some opportunity to sustain the tone of his mind, and to invigorate its faculties; and let him have such assistance as will relieve him from cares so multifarious as to exhaust all mental vigor. In order to accomplish these desirable objects, a more ample pecuniary provision must be made for the support of elementary schools, if we expect to see them manned by teachers of those elevated accomplishments, which correspond, in any degree, to the standard we have been contemplating.

In the second place, there are faults of *manners*, against which the professional teacher has reason to guard himself. Common sense, more than learning,

commands the respect of society. Common sense must be cultivated, by an habitual attention to the subjects of common life; and these, and not the learning of the schools, must form the medium of intercourse between the teacher and general society. Opportunities for travel are to be sought, and that intercourse with the best society, which tends to polish and refine the manners. The pedantry, or conceit, which is apt to be engendered by an exclusive intercourse with tyros, is to be prevented by an habitual intercourse with equals, or superiors. The duties and privileges of the citizen must not be forgotten, nor merged in the character of the scholar. An intelligent interest in public affairs, and an ability to converse well upon these subjects in mixed society, and the actual discharge of such offices of the citizen, as may be compatible with the life of a teacher, will have no small tendency to dissipate the prejudices of the world against the profession, and to elevate it to the rank which clearly belongs to it among the learned professions.

The picture, which we have thus easily been able to place before our imagination, of the "perfect teacher," presents, indeed, a rare assemblage of virtues. It combines in one, *scholarship*, embracing a knowledge of one's own subject, both accurate and extensive, and a liberal acquaintance with all kindred subjects — *intellectual qualities* of a high order, implying a mind strong and clear, vigorous imagination, and taste characterized by both the *το πρεπον*, and the *το καλον*, of the Greeks, comprising a nice perception of all that is fitting and proper, and a lively sensibility to

whatever is beautiful in the classics, in the fine arts, and in the kingdoms of nature — *moral qualities*, established on the faith and the benevolence of the Gospel, and flowing out in the effusions of a warm heart, and generous affections; with authority to command, united with discretion, and self-control — and, finally, those *refined manners*, and that *knowledge of the world*, which blend in one the scholar, the gentleman, and the citizen.

Formidable as this model may appear, some few names, at least, are on record which, in no mean degree, illustrate it; and it has been my happiness to know those whose accomplishments approximated to our ideal character. When thus adorned and dignified, how useful is the life in its meridian transit, how illustrious in old age! How well has he served his country who moulded, in childhood, or in youth, her lawyers, her orators, her statesmen, her physicians, her divines, her authors! Still, the love of goodness, rather than of glory, will ever be the passion most appropriate to instructors; and they, in their approaches to the temple of fame, will ever be of that smallest tribe of suppliants who cry:—

> Great idol of mankind! we neither claim
> The praise of merit, nor aspire to fame!
> 'Tis all we beg thee to conceal from sight,
> Those acts of goodness which themselves requite.
> O let us still the secret joys partake,
> To follow virtue, even for virtue's sake.

LECTURE IV.

ON THE

NECESSITY

OF THE

STUDY OF PHYSIOLOGY.

By EDWARD JARVIS, M.D.

The going to school is so universal among children — every one goes so much, as a matter of course, as early as he can be taught to read, and as late as the convenience of the family can spare him from the more active employments of life,— and this is done so much from habit, that one hardly stops to find reasons for so doing. And it would seem almost a work of supererogation to ask a child to tell, why or wherefore he thus buffeted with the winter's cold, or sweltered in the summer's heat, as he waded through the snows of January, or toiled beneath the burning sun of August, to the school-house.

Yet it is not an idle question to ask, nor a useless

one to answer: — What are the objects of a common-school education?

What do we hope to gain for our children, by thus sending them to the public schools?

In what way, or to what degree, may we hope to prepare them any better for the purposes of life, by this process of education?

These are questions so apparently self-answered, that it seems almost a trifling quibbling to propound them.

Yet it is worth our while to examine them — not so much because we doubt that they can be answered at all, but because we need to be assured that they can be theoretically, or are practically answered in the best manner. It is well for those, who are engaged, or are interested in the education of children, to call up these questions, and settle clearly in their minds, first: What are the great purposes of life? — and, second, how can the training and the instruction of the schools aid in effecting those purposes? What foundation can be laid in childhood, upon which can afterward be built the happiest and most useful, the fullest and most vigorous manhood?

These are questions not to be settled at once, and to so remain forever undisturbed; but in the progress of knowledge, in the new developments of science, they are to be again and again called up, to see how far new improvements in teaching, or new discoveries in science, may be adopted and made available in the education of the young.

There may be differences in the minutiæ of the

answers to these questions, both as to the purposes which are to be effected or aided by education, and as to the special preparatory means, by which these are to be brought about.

Yet all agree as to the first step. A child must first learn to read, and thus obtain the key to all other knowledge.

Beyond this step, every other is a questionable one; not so much whether it should be taken at all, as whether it should be taken sooner or later. Which shall be first taken? Shall the child step first into arithmetic, grammar, geography, or writing? Or, if so be, time and opportunity will permit only one of these studies to be pursued, and all the rest neglected, shall the boy now, and the man hereafter, be a writer, a geographer, a grammarian, an arithmetician, a philosopher, an astronomer, a rhetorician, a logician, a naturalist, or a physiologist.

Every one of these subjects of study is useful. Each one may be wanted in the course of life; no boy's education is full and complete without them, nor is he ready-armed and equipped for the chances and the responsibilities of manhood, without understanding each and all of them. But they are not all equally necessary. Man can live, he can perform the duties, and bear the burdens of life, better without some, than he can without others.

Writing seems the second article in education; reading is the first necessity, but writing seems the second. First, to learn for ourselves, second to com-

municate to others that which we have learned; this is the general, perhaps the natural order.

As early as possible after learning to read and write, the child is taught geography, arithmetic and grammar. He may travel, he may read history, or the newspaper; he may be engaged in commerce; he must therefore know of his own and foreign lands, th r situation, their people, and their productions; and therefore he studies geography.

He may hold converse with his fellows by his tongue or his pen, and it is desirable that he should convey his ideas in correct language. He must, therefore, study grammar.

He may buy or sell, he may be a trader, an accountant, at any rate a calculator. He, therefore, studies arithmetic.

These three, or these five, are deemed essential; their usefulness is beyond chance. No one is ready for life without them, so that in the present day, in New-England, scarcely is a parent found so ignorant, or faithless, or a master so selfish and niggardly, as to refuse a child or an apprentice an opportunity to become acquainted with them.

Many aspire beyond these, and crave more knowledge. They wish to meet other chances, and prepare for greater responsibilities of life. They aim to discipline their minds, to bring forth powers which can be applied to the varied objects, that may present themselves. They have a natural and a laudable desire to make themselves useful and acceptable to

their fellows, to become agreeable members of society. They wish to understand the natural laws of motion, and of substance, so that in dealing with matter, they may act in obedience to these laws,—they may avail themselves of the inclined plane, the screw, the wheel, and axle gravitation, &c., and without making mistakes, suffer no loss of time or labor. Natural Philosophy and Mechanics prepare them for these.

Chemistry enables one to make surer and better mixtures. Astronomy may guide him across the seas. Music makes him a more acceptable companion. And Painting gives to the scholar a peculiar kind of enjoyment.

With the knowledge of these and some others, men and women are not only educated, but accomplished; they are prepared to meet not merely the responsibilities, that must and do come upon every one, but those, which, in the varying chances of the world, may come upon them. So that, whether a man be a laborer, a mechanic, farmer, or merchant, whether he be master or servant, whether he live on the land or wander upon the ocean, he is ready for every emergency; his storehouse of knowledge contains every fact and principle which any occasion may call for.

Besides all this, he is so trained in the graceful accomplishments, that he is able to share in the courtesies, to mingle with the generous hilarities, and to give and partake of the enjoyments of social life.

Thus is a man supposed to be educated not only

for the certainties, but also for the probabilities, and even the possibilities of life.

PHYSIOLOGICAL KNOWLEDGE USEFUL BEFORE OTHERS.

But in all this, there is one thing wanting, one study of primary interest omitted — the man has yet neglected to prepare himself to meet one responsibility, that, for every child of earth, comes first in the course of human life.

Before a man can become a geographer, a calculator, or grammarian, before he can reason or write, before he can be a merchant, a sailor, or mechanic, before he can engage in any of the occupations of the world or share in any of the burdens of society, he is appointed to live.

He may not necessarily be a trader, a traveller, a chemist, or an astronomer, but he must necessarily breathe, eat, and exercise, and carry on all of the functions of the living body.

The necessity of superintending the operations of life within his own body, inevitably falls upon every one, of every condition and every age. Whatever else he may be engaged in, whatever may be his tastes and means, this necessity comes upon him; it comes first, it takes precedence of all.

Without wishing to say any thing in derogation of the preparation for other responsibilities of life, whether certain or uncertain, I think I do them no injustice, if I now and here urge upon you the necessity of giving a high and front rank to the study of the Laws of Physical Life.

It is to these laws of Physical Life, to Physiology, that I wish to call your attention in this lecture. Time would fail me, if I were to attempt to explain all of them; for a full treatise upon this subject usually fills one volume at least, generally more than one. But I shall only endeavor to explain a few of the laws, and those few, in regard to which we have some responsibility. I shall therefore confine myself to the subjects of the digestive system and digestion, the lungs and respirations, the skin and its functions, the locomotive system, the brain and nervous system, their method of operations, and their connections with, and dependence upon external nature; their dependence upon our volitions, and our duties concerning them. It is also my purpose to show the beautiful and happy consequences of health, and vigor, and protracted life, that follow the faithful obedience to these laws; and, on the other hand, the melancholy consequences of pain and weakness, of sickness and premature death that follow from our neglect and disregard of them.

But here I may be asked, What is this Physiology — what are these laws of Physical Life to us? We take life as we find it, and meet death when it comes. We eat, and drink, and labor; we breathe and think; we clothe and shelter our bodies, and enjoy the world as long as life lasts, and of what use is it to us to learn the way that food digests, and that air purifies the blood, or the effects of clothing, exercise, and mental labor upon the body? We know that few can escape sickness, and that death is the common and inevitable lot of mankind. And of what

avail will the knowledge of Physiology be to prevent the one, or to ward off or postpone the other?

This is not a rare doubt, nor is it confined to a few of the uneducated. It pervades all ranks, the learned and the simple indulge in it. Its woful consequences are manifested throughout the whole world. But it is founded upon the ignorance of those very laws, which are neither understood, nor believed, nor obeyed.

There is a common, perhaps a general notion, that diseases come from without, and not from within; that they come down from Heaven, or arise up from the ground; that they and death are the messengers of Providence, and have nothing to do with the condition of our organs, nor with our faithfulness or unfaithfulness to the laws of our members.

A cursory view of the five organs and functions before spoken of, and of their relation to external nature, and our duty in respect to them, will show the fallacy of these notions, and convince us that our health and our strength are placed, by a generous Providence, in our hands to keep and sustain, and that we are truly responsible for their full and protracted maintenance.

All the works of the Creator are the results of infinite wisdom and of infinite goodness. There is a beauty and also a harmony running through them. Every one of these works is complete and perfect in itself, and perfectly adapted to its station in the universe. It is fitted to the circumstances amidst which God has placed it; to the elements that float about

it, and is capable of effecting the purposes for which it was designed.

The human frame, as it comes from the hands of the Creator, is a perfect, self-sustaining, vital machine. It is composed of many organs of various kinds, which perform various functions, and effect different purposes; yet all of these so coöperate as to produce one grand result, which is Life.

In this collection of organs there is no redundance; there is not one too many, neither is there any one wanting. Each is made exactly of the due shape and size; it is placed in precisely the situation, and is endowed with just the powers needful for the performance of its duties. Each one performs its own work, and no other. Each one acts independently in its own sphere, yet is dependent upon all the rest for its power. No one is strong, if any of the others are weak. No one acts with its full energy, unless the others are also in active and undisturbed operation.

He cannot breathe freely, unless he digest well; nor can he digest well, unless he have muscular power and muscular motion; nor can he have muscular power, unless the skin perform its functions faithfully. For any one organ to be well, all must be well; and whenever any one suffers and is weak, the others sympathise with it, and are also weak.

Some of these organs depend upon the external elements; all of them are more or less under the control of man; and so far as they are under his control, they are submitted to his direction, for good or for evil.

MAN RESPONSIBLE FOR THE USE OF HIS ORGANS.

The generous and provident Creator has given to man all the organs and vital machinery necessary for carrying on the operations of life. But he has left it to man, to set and to keep some of these in motion.

He has supplied man, or has given to him the means and the power of supplying himself, with all the materials and the elements upon which these organs are to operate. All directly or indirectly are supplied to us, and nothing is wanting for the support of our lives.

We are supplied with the *digestive apparatus*, by which dead food is to be converted into blood and flesh; and the same hand has furnished us with the elementary principles out of which that food is to be made. But it is assigned to us to select that food, to determine its quantity and quality, the times and the manner of eating, and to adapt the whole to the peculiarities of our individual constitutions.

We have given us *lungs* to breathe, and the air to enter them; but it is left to us to see that air is always pure, and fitted to effect the due changes in the blood.

We receive our *skins* from the Creator's hand, but we are to make and adapt the clothing and protection to their wants. We are to give them the needful cleaning and friction.

The *muscles* and the rest of the locomotive apparatus are made to our hands; but how much or how little these shall be exercised, is left to our control.

The brain and the nervous system are the creation of God. But how, and to what degree these shall be worked, to what purposes they shall be applied, is left to our discretion and our volition to determine.

Thus we see, that in carrying on these functions of life, we are the coöperators with the Creator. He has done one part towards this work, and left us to do the rest; and he has put into our hands the means and the powers to do what he has required of us.

What God has done for us is well done. So far nothing is deficient, and nothing is redundant. What we do, is done well or ill according to the degree of our intelligence, of our knowledge of the organs with which, and of the material upon which they are to operate, and according to the conscientious faithfulness, which we apply to our part of the work.

Seeing then that we are the co-workers with the Creator in the work of sustaining life, it will be our first duty to learn what has been done, and what is left for us to do; to know the nature, powers and wants of our bodily organs; the purposes to which they can best be applied, and their capacity of endurance. We should also ascertain the nature and fitness of the material, upon which they are to operate. Without this knowledge we may err and stumble; we may supply our organs with improper material, or apply them to improper purposes; we may thus create weakness instead of strength, and disease instead of health.

DIGESTION.

The most prominent necessity of the animal body is nourishment. The food, dead, lifeless upon our tables, is to be converted into living flesh of many kinds — into flesh, that shall move, and feel, and think; that shall enjoy pleasure, and suffer pain. This is a mysterious work, a beautiful transition from death unto life; a wonderful process, wonderful beyond all others, and one which, were it not a matter of the most familiar observation to every man, would excite our interest and astonishment.

For this conversion of bread into flesh, God has given to us all the needful apparatus, the mouth and the stomach, and all their attendant and coöperating organs and parts, by which the food is digested and made a part of the living body.

In the mouth we see the lips, the cheeks, the teeth, the tongue and the salivary glands. Each one of these has definite purposes to fulfil, and definite acts to perform, and is exactly fitted with powers and capacities for those acts and for no other.

The Creator, in making the mouth, knew the objects, to which it was to be devoted, and provided all the means for effecting these, and no more. There is nothing in or about the mouth, which should not be used for these purposes, and there is nothing wanting to effect them.

In the mouth there are thirty-two teeth, of various shapes, for their various uses. The front are thin, to cut the food; the others are broad and flat, to grind it down.

About the walls of the mouth there are several glands, which make and throw out the saliva that waters the mouth, and mixes with the food. When the mouth is still, these glands are inactive, and throw out no saliva; but whenever we take food and begin to move the jaws, they commence their work, and manufacture and pour out as much of this fluid as is wanted to moisten the food that we are masticating.

This saliva is not merely to wet and soften the food, but it imparts to it a peculiar quality, which prepares it for the next step of digestion in the stomach. Nor will any other fluid answer the same end. It is a peculiar liquid made in these glands, and in no other place, precisely for the purpose of taking the first step in the work of digestion, which no other liquid can do.

It is the work of the mouth to grind down the food to very minute portions, and to mix it with the saliva; and the teeth and saliva combined reduce the food to a very soft pulp. When this is done, and well done, and not before, it is ready for the next stage of digestion.

Next, the food is transferred to the stomach, and there it is submitted to a second process of digestion, by which it is dissolved and reduced to a finer pulp, and is converted, by means of the fluids of the stomach, into chyme.

The stomach is a soft, fleshy bag, of various sizes, according to the quantity of matter which is contained in it. It is capable of great expansion, when unnaturally crowded.

It is composed of three coats, or layers of flesh. The outer coat is fat, thick and strong; the middle one is made up of muscular fibres, which are called the lean meat upon our tables. This coat is the one that gives all the motion to the stomach. These fibres contract and extend, as does the leach, or the earth-worm. They lay crosswise of each other; one set running around the sack, and another set running lengthwise of the organ, so that whenever the circular fibres contract, they must draw down the stomach as a string closes a bag, and when the longitudinal fibres contract, they shorten the stomach; and when both act, they lessen the internal capacity, and force the contents out.

The inner or lining membrane is soft, loose, and is sometimes thrown into loose folds, like the sleeve lining, that is too large for the outer cloth. In some animals this inner lining is thrown into cellular form, as in the stomach of the cow and the ox.

The structure of the stomach is familiar to all, who have eaten tripe. In that, the fatty surface shows the outer coat; the lean, stringy fibres show the middle or muscular coat; the cellular, or honey-comb like surface, is the inner or mucous membrane.

This lining membrane manufactures and throws out a peculiar fluid, called the gastric juice. This is prepared whenever the food is deposited within the stomach, and not at other times. It is a powerful solvent, so strong that it dissolves all the proper food that we eat, and reduces all, of every sort, to one homogeneous pulp, whether it be bread, meat, vege-

tables or fruit of many kinds, all is reduced to one kind, and made the same in the stomach.

This process is a comfortable and an easy one, when the food is of a proper quality and quantity. It is painful and difficult, when the food is not suited to our wants and the power of the stomach.

After this is done, the digested food is separated into the nutritious and the waste. The former is taken by innumerable little vessels, and carried from the digestive organs to the veins, and poured into the blood near the heart.

This is digestion; these are the processes through which the food must go, in the transmutation of bread, meat, and vegetables into living blood. These processes are established by nature; and the means by which they are accomplished, are all prepared by her.

These processes are necessary, and in the appointed order. Nature, when she established them, knew exactly the object which she wished to effect, and the material upon which she intended to operate. Therefore mastication, thorough and complete, and perfect mixture with the saliva in the mouth, must take place before the gastric juice and the coats of the stomach can do their work upon the food.

This is nature's law, absolute and unchangeable. No other fluid can be substituted for the saliva for first moistening the food, and the stomach has no grinding teeth to make up the deficiency of imperfect mastication in the mouth.

Nature made both the saliva and the gastric juice

of precisely the chemical composition, to follow the second after the first, and to dissolve the food.

The dyer knows that he must use first one coloring matter and then another, to produce the desired shade, and each must not only be used in due succession, but each must have its due time to effect its work; and that all haste or neglect of any one of the processes, will be shown in the imperfection of the color at last. But not more certain does this bad color follow the unfaithfulness, or ignorance in the performance of the work, than bad digestion will follow imperfect mastication, or insufficient salivation of the food in the mouth.

For all the work of the mouth, we are therefore responsible. For it is for us to determine how faithfully and successfully this shall be done.

Yet, notwithstanding this is the unyielding law of nature, we see men and children eating their food as if nature had made a mistake, or done a superfluous work in giving them teeth, and had made the salivary glands for no useful or decent purpose.

There are many, who entirely misunderstand the objects of these parts of the mouth, and use them for purposes for which they were never intended. They chew tobacco, all day long, but they cannot find time or interest to chew their food for the few needful minutes; they stimulate their salivary glands to furnish saliva sufficient to make themselves an offence, and to become a laughing stock, but they cannot afford this to soften their food, and prepare it for the stomach.

We are responsible not only for the work of digestion so far as it is performed in the mouth, but also for the selection of our food, for its quality and its quantity.

What shall we eat? How much shall we eat? These are questions which some affect to despise, as if they were beneath their notice; and their practice corresponds to their contemptuous disregard of these things.

There are others, who care more for these things; who eat for their palate and not for nutrition; who seem to forget that the stomach is not a cavern of illimitable expansion, and a repository for every sort of matter, which their perverted appetites may thrust into it.

Between these two extremes of stoicism and gluttony there is a great class, embracing almost the residue of mankind, who from ignorance, from thoughtlessness, or from convenience, violate, in a lesser degree, the law of mastication. They are not careful to select and eat that, and that only, which their systems require for their strengthening, and which they have power to digest. They eat that, which their cooks or their friends provide, without regard to its suitableness or unsuitableness to the wants of their frame, or the powers of their digestion; and after they have taken as much as the stomach and digestive organs can well convert into chyle, they eat a little more for appetite, a little more to gratify others, a little more for politeness sake.

The consequence is sometimes oppression of the

stomach, and a heaviness of the whole frame, a languor of the spirit, and indisposition to exertion. Now and then, there is a pain and sharp distress; the remoter consequence is imperfect nutrition, and finally dyspepsia, which is frequently found throughout the land.* Men differ as to temperament. One is nervous and excitable, a second is sanguine and irritable, and a third is lymphatic and heavy. The nervous is over stimulated by the kind of diet, that only nourishes and invigorates the lymphatic. On the other hand, the lymphatic is dull, and hardly supported by that food, which is sufficiently stimulating for the nervous. Yet we see these men, of such various powers of converting food into blood and flesh, and such differences of excitability, all sit down at one table, eating of the same food, with the vain hope, that it will be equally beneficial to all.

HEART AND CIRCULATORY SYSTEMS.

The heart is placed about the centre of the chest. Two sets of blood vessels go out from it, and two

* A man of fashion once said that it was vulgar to say, "What is one man's meat, is another man's poison." But he understood etiquette better than Physiology. Vulgar or not, it is true; and pity it is, that more men could not believe and regard it. Men differ widely as to their digestive powers. One can digest one thing, and another another, but they cannot interchange. They differ as to their wants of nutrition. The hard laborer in the field, or the sailor, needs a much more stimulating and strengthening diet than the scholar, the sedentary mechanic, or the female in the house.

sets return to it. One set carries the blood out to the whole body, another carries it to the lungs. Two other sets bring the blood back from the whole frame, and from the lungs.

These arteries and veins all begin at the heart, in large trunks, like the trunk of a tree, and divide and subdivide again and again, like the branches, until they become almost infinitely small, and are lost in their minuteness.

The blood goes out in the arteries, and is distributed through these minute tubes, in every part of the body.

After passing through these minute arteries, the blood finds its way into the veins, which are equally small, and through these, it passes into larger and larger veins, until the last and the largest opens into the heart.

This is the circulation of the blood. It goes out from the heart through the arteries, and returns back to the heart through the veins. When it goes out it is of a scarlet color; when it returns it is of a purple color. At first it is rich with the new blood from the digestive organs; it has then been purified in the lungs, and is prepared with the nutriment for the whole body.

Nutrition takes place in the extremely small blood vessels, in the transition from the arteries to the veins. Out of the arterial blood which they contain, they supply the growth and the waste of every organ and every texture; the solid and the liquid, the fat, the lean, every kind of flesh, that is wanted in the

animal frame; the bone, hair, nails, brain, muscles, tears and bile, are created from this one blood in the arteries.

It is the universal law of animal nature, that life cannot abide long in matter. Our material bodies are composed of myriads of particles, that are now endowed with the living principle; but these particles cannot long retain it; they must soon give it up, and as soon as this is done, as soon as any particle gives up its life, the veins remove it, and the arteries immediately replace it with another and a living particle. This change, from death to life, is going on incessantly in all animal bodies, so that the particles that compose our bodies to-day, are not the same that composed us yesterday, nor will they be the same to-morrow. We are not the same identical beings from hour to hour. Hence comes the necessity of a new supply of blood, and therefore a new supply of food, daily and oftener; and this is the sole and only purpose of eating, to supply the wants of the system, and provide nutrition for the waste and the growth of the body.

The dead particles after being removed from their original places in the flesh, are now in the veins. They are dead, useless, a weight and a clog upon the system,—and yet they are in all the veins, and these are distributed in all parts of the body.

It is a natural question to ask, How shall these be removed from the body? They are buried in the very deepest recesses of our limbs, our trunks, our brain. How shall they be carried out? To us this

might be a difficult work, but to the Creator it is an easy one.

This matter, exhausted and dead, is composed principally of carbon; it is now in the veins, and mingled with the venous blood. All the blood of the veins is sent to the heart, and from the heart it is sent to the lungs, and there distributed through thousands of minute vessels, throughout every part of the respiratory organs.

LUNGS AND RESPIRATION.

It is familiar to all, that the wind-pipe leads from the mouth to the lungs, and that at every respiration the air rushes through this tube into the chest, and is forced out again every time we breathe.

The wind-pipe is a single tube in the neck, but in the chest below it is divided and subdivided, and this is done again and again, until it reaches almost infinitely small air cells, which lie everywhere in the lungs; there they lie in contact with the vessels, that have borne the blood from the heart to be unloaded of its dead particles.

Every hundred parts of the air contains about twenty-two parts of oxygen, and about seventy-eight parts of nitrogen. Chemically this oxygen has a stronger affinity to, or attraction for, carbon, than it has for nitrogen; therefore, when the air meets this blood, which is loaded with carbon, in the lungs, the carbon leaves the blood in the veins, and the oxygen leaves the nitrogen in the air, and unite these together and form a new compound called carbonic acid. This

mingles with the air in the air cells, and is thrown out with it at every expiration.

The blood is now relieved of its dead burden; the exhausted carbonic particles are taken from it and sent out of the body. It is changed from the purple to the scarlet; it is sent back to the heart, and is ready again to be sent through the body to nourish and invigorate it.

When the air enters the lungs, it is composed of pure oxygen and nitrogen; when it goes out, it has lost some portions of its oxygen, and is loaded with some carbonic acid gas and some water. If breathed over a few times, all its oxygen is lost, and it is saturated with moisture, and very much loaded with carbonic acid gas. It is thus absolutely unfit for respiration. It has no power whatever of relieving the blood of its carbon. This is the condition, in greater or less degree, of all the air that has been once or more respired, and of the atmosphere of all inhabited and unventilated rooms.

The heart beats seventy-five times a minute, and sends its living blood to the general frame to nourish it, and its dead blood to the lungs as often to be relieved of its death. The lungs expand and contract about sixteen to twenty times a minute, and, at every respiration, they carry off the deathy burden from the blood. This is a work that, from birth to death, is never suspended, nor can it be stayed except with the suspension of life. Day and night, asleep or awake, the heart beats and the lungs move, and carry on the incessant work of nutrition, and of purification of the blood.

For this purpose of carrying the carbon out of the body, the atmospheric air and the venous blood precisely suit each other. The same intelligence that created the one made also the other. Exactly the chemical composition of the air, and no other, will relieve the blood of that quantity of carbon which it can best spare. If the air contained a greater proportion of oxygen, it would absorb more than the dead carbon and take away some of the healthy elements of the blood, and thereby weaken our bodies. If it contained less than the natural proportion of oxygen, it would be unable to bear away all the carbon that needs to be removed.

No chemist in his laboratory makes his analyses or his compositions with more precision, than nature does this work in the lungs of man. Her part of the work is well and faithfully done, and but little is left for us to do, but that little is absolutely necessary; all she asks of us is to give the lungs pure and fresh air, and to give the chest free play, so that it may draw in as much air as the decarbonization of the blood may require. These she must and these she will have, or she will not do the work well for us. She will not purify the blood except in proportion to the purity of the air we give her, and the freedom we allow her to carry on her work. If she have not sufficient pure air to do this, she will send back to the heart the unpurified blood. This impure blood is then sent from the heart to the whole frame, with its deathy load in part, or entirely, to impair instead of nour-

ishing — to disorder, rather than to invigorate the animal body.

This law of nature is fixed and cannot be revoked, nor modified in the least degree. As certain as the chemistry of the laboratory is the chemistry of the lungs — as sure as that nitric acid and potash, and nothing else, will make saltpetre — so surely will the air, precisely as nature made and compounded it, combine with the carbon of the blood, and make carbonic acid, and carry this out from the living body.

It is our duty, therefore, at every moment of our lives, to give our lungs fresh and pure air; not air that has been breathed over once and more, for that has lost a part or the whole of its oxygen, and is loaded more or less with carbonic acid gas. Nor should we breathe the air mixed with any other gas or substance, nor with the dust of streets, nor the exhalations of marshes, nor the smoke of lamps, of fires, or tobacco, nor the effluvia of shops or breweries, or of decaying matter.

The lungs were given us for this sole purpose of decarbonizing the blood, and for the formation of the voice. To use them for any other purpose is a perversion of their legitimate objects, and a violation of the natural law.

The next demand of nature is room for free expansion of the chest. In this, all she asks is to be let alone; she is content with non-interference, so that she may lift the ribs and spread the walls of the chest far and wide, and breathe deep and full, and give the blood plentiful supply of air to purify it.

These are the laws of our government, in regard to the lungs.

1. Give them fresh air.

2. Use them for no other purpose than respiration and the voice.

3. Give them freedom of expansion.

To these nature requires absolute obedience from us, and she gives in return the due reward of life and vigor, and buoyancy, precisely in measure of our faithfulness. But for all our disobedience, she will surely punish us with languor and imperfect life, in exact proportion to our neglect of duty.

One would suppose, that these laws of life are so palpable, that all would understand them, and so easy, that none would fail to obey them.

But such is not the happy history of the world, nor are the men and women of our day any better in these matters than their fathers were.

We live mostly in houses made as tight as the carpenter and mason can close them; we have, therefore, a limited supply of air, with none or imperfect ventilation.

A man of ordinary size and health consumes, or destroys, about two hundred and forty cubic feet an hour, that is, four cubic feet of air every minute. A room of average size, sixteen feet square and eight feet high, contains about two thousand cubic feet of air. This is enough for the respiration of six persons one and a half hour; but it is all that is allowed for a family of six or eight persons, for several successive hours.

Men work in shops even smaller than this room, where the air, which is not sufficient to last twenty minutes, is made to last half a day; and their chambers, where they sleep the whole night, are of still narrower dimensions, and allow less air for respiration.

I measured a shanty on the Old Colony Railroad in Dorchester, Mass., where fourteen laborers slept in one attic, sixteen feet long and fourteen feet wide; the roof comes to the floor at the sides, and rises only to six feet and ten inches at the summit. The whole capacity of this chamber is only seven hundred and eighty-four cubic feet. In this room there are no means of ventilation whatever; there is neither window nor chimney, not even a knot-hole to admit fresh air; nothing but a few cracks left by the imperfect carpentry. The entrance, not more than two feet square, was through a hole in the floor from a room below, in which nineteen persons lived in the day and five slept at night. The air of the lower room was therefore almost as bad as that in the chamber. And here, in this black hole, fourteen men slept through the night, and breathed over and over, for seven or eight hours, the stifled and corrupted air, loaded with the deathful exhalations of their lungs. Every one of these men wanted two hundred and forty feet of air, and the fourteen wanted three thousand three hundred and sixty feet each hour; and yet here were only seven hundred and eighty-four feet for the whole night. Here was enough to last the whole nineteen minutes, and yet it was used eight hours. It is not strange, then, that the men

told me, that they felt faint and languid in the morning, that they had neither spirits nor appetite, and they rushed, as early as possible, out of doors to catch some air to breathe.

I examined some two years since the great sleeping-room of the workmen who are building a new fort on George's Island, in Boston harbor. Here I found that one hundred and thirty-two men slept in a room about sixty feet long and twenty feet wide, and eight feet high. They were piled up one above another, almost to the very ceiling. The whole allowance of air was less than eighty feet to a man, not quite enough to last twenty minutes.

Travelling in the canal boats of New-York and Pennsylvania, and in the steamboats from Baltimore northward, I have slept in rooms almost as crowded as these, and have found the air of the cabins so suffocating as to be almost insupportable. I felt feeble and faint, and unrefreshed when I awoke.

This want of fresh air is not confined to the poor, nor to canal and steamboat travellers. We find the same evil in our public halls, in our churches, and in our lecture-rooms. I have several times lectured to an audience of five hundred persons, in a hall which contains about twenty thousand cubic feet, which gave to each person fifty feet of air, enough to last them twelve and a half minutes; and yet these meetings are continued from one to two hours, and sometimes longer.

It is rare to enter a church in the afternoon of a Sunday, without perceiving the closeness of the at-

mosphere. But our school-houses seem to be the worst supplied with this almost all-pervading element. In the course of my official duty, I find it one of my greatest sufferings to enter these halls of learning, (I might call them little dens of suffocation,) and breathe with the little sufferers, their polluted atmosphere. A school-house near my home, is built of beautiful architecture, and strikes the eye as a grand evidence of public liberality. One room containing seven thousand six hundred and thirty-seven cubic feet, is arranged to accommodate ninety-two children, besides the teacher, and it has fifty-eight upon an average. Here is air enough to last the whole complement twenty minutes, and the average number thirty-three minutes. One school-house in Concord, Mass., gives seventy-five, and another forty-three feet to a child — enough to last them nineteen minutes in one case, and eleven in the other. I cannot say that these are fair specimens of school-houses throughout New-England, but they are good samples of those, which I have seen.

The lungs are created for no other purpose than to receive pure air and decarbonize the blood. They are of an exceedingly delicate texture, and suffer when any other matters are introduced into them. The coughs and the irritations that are excited, whenever any thing, as a drop of liquid, any gas which nature has not intended to be inhaled, gets into them, are manifest to all.

The law of life requires that these organs be appropriated exclusively to respiration. Yet we daily

and hourly see this law voluntarily violated by those who smoke tobacco.

Nature determined that the lungs should be expanded by the raising and spreading the ribs, and thus extending the diameter and enlarging the capacity of the chest, in order to receive the new air at each respiration. When this is done, the ribs fall, the chest is contracted, and the lungs compressed; and the air having done its work is forced out. This is the unceasing work appointed for all mankind to do. Nature has made no distinction between the sexes, nor between one man and another. Male and female, fashionable and unfashionable, she has created all with blood, that must be relieved of its carbon, with ribs, that lift and spread; and ordained that, by this motion, each and all should get their breath.

This is nature's law. But fashion has set up another law, and many there be that follow in her train. Between the laws of these two there is a painful conflict. The great Creator determined that the ribs should play and move freely; fashion determines that they should be kept still. Nature made the chest a cone, with its base downward; fashion has ordained, that though this is well enough in the male, yet it is better that the female should have the cone inverted. He that made us, so arranged our frame, that we should at every inspiration receive forty cubic inches of air into the lungs, and He has required that quantity to purify the blood. But a good portion of the world have thought they knew better than the Creator, and have concluded, that although

forty inches are necessary for a man, thirty inches are sufficient for a lady.

But all resistance to the law is vain, whether we violate it alone, or in the company of a multitude, or of the whole world; whether we err under the auspices of fashion, or in quiet obscurity, the law relaxes none of its requirements, and forgoes none of its penalties. The judgment surely follows upon every error. For the breather of impure air, for the smoker and the corset bound, there is less purification of blood, less nutrition, less vital energy, a lower degree of life.

THE LOCOMOTIVE SYSTEM.

The muscles are the sole moving organs of the animal body. They are the lean meat which we see on our tables; they are composed of strings or fibres, and these are arranged in bundles, and tied at each end to the parts which are to be moved. They contract like the earth-worm, and draw the parts to which they are affixed, toward each other. The muscle which closes the jaws, and which principally does the work of eating, has one end fastened at the temple, and the other at the lower jaw. When we eat or close the jaw firmly, by placing the finger upon the temple, this is felt swelling out, in proportion to the contraction.

The muscle which bends the elbow, is fixed at one end to the lower arm, just within and below the elbow, and at the other end to the bone of the upper

arm near the shoulder. By laying the hand upon the front of the upper arm, about midway between the two joints, we feel this muscle swell out every time we bend the arm.

The muscles are distributed throughout the whole body, and are arranged in such beautiful order and fitness, that every motion, however complicated, is made with astonishing precision and celerity.

By the means of the muscles we walk, we move the arms, we lift the hands, we roll the eye, and we articulate language; by these we do all our work.

These are strong or weak, according to the manner of their use. If never used, they have no strength; if over used, they are exhausted; but if used with due discretion, they are very powerful. These are put into our hands, to exercise them much or little; to apply their powers to such purposes as may seem good to us.

To a certain degree, muscular exercise is absolutely necessary for the development of this system, and for the vigorous action of all the rest. Beyond this degree, and within certain limits, muscular exercise is allowable; and this we can apply to our labor, and to our enjoyment. But if we trespass beyond those limits, and over-work, then comes exhaustion and reduction of life.

These are our laws which we should, each one of us, study and apply to ourselves. Obedience brings its sure reward, and disobedience is followed by its inevitable punishment. The violations of this law are manifold and manifest; they come within the ob-

servation of every one; we sometimes commit them ourselves.

Some men and women keep themselves in their houses for days, and perhaps for weeks together, vainly imagining their muscles will not lose their power, and their nutrition will go on as well, and their brain will be as clear as if they bestirred themselves abroad.

The book-keeper, who stands at his desk in his counting-room,—the tailor and the shoemaker, who confine themselves to their benches,—the student who loves his books better than any thing else, and grudges the time spent away from them,—all these may think, that because their professions do not need labor, their frames do not require exercise, and they may carry on the operations of life as well without as with it. But they sin against the law, and its judgments overtake them in the measure of their delinquency.

An over anxious mother guards her daughters with injudicious care. In her notions of female education, fatigue is a stumbling-block, and the weather is a bug-bear. Her girls are cautioned not to worry themselves with walking or active play. They have no employment nor amusement that will call forth muscular exertion; consequently they grow up inactive and feeble. The power of their limbs is never brought out, and the strength of their whole frames is never developed. The energies and the health of all their other systems are feeble like those of the muscular. Their digestion is bad, their respiration

imperfect, and their brain is languid. All that portion of life which consists in action, courage, and command of their physical and moral powers, and readiness to apply them to the common and ordinary purposes, has never been born. Their listless days drag heavily onward, and they have a quantity of existence, less than their latent powers might have given them, if they had been called into exercise.

On the contrary, some violate this law of exercise, in the opposite extreme of over exertion. They seem to consider that the whole energies of the body may be concentrated in the muscular system, and that the whole purpose of life is work, work, and this almost unceasing. So they make long days and short nights, and find hardly time for their hasty meals. In this endeavor to over-work and over-produce, they do for a time succeed, and they congratulate themselves because they are more industrious and therefore more prosperous than their neighbors; and thus they go on adding toil to labor, in the vain expectation that they will be able so to continue, until they shall have fulfilled the measure of their days.

But nature here is watchful of neglect, and will not alter her law. This over-exertion is only an expenditure of future income,—a borrowing of life and power from the days that are yet to come,—and when those days do come, they find them exhausted and comparatively powerless. Old age comes prematurely. Then in the midst of the natural term of earthly existence, but near the end of their days, they are decrepid and useless, because they have

squandered their strength, and they are now suneriug the consequences of their improvidence.

The same is true in regard to any unwise expenditure of any power, whether physical or mental, for however short periods. All great and over-exertions of the mind or body, are followed by more than a corresponding lassitude, or weakness. One day or one week of extraordinary labor, is followed by more than a day or a week of extraordinary depression. The loss is always greater than the gain; and the man accomplishes less by irregular labor, than by that systematic industry, which expends on each day its own strength and no more, without ever borrowing of that usurious lender, that unrelenting Shylock, the future.

LABOR AND REST.

Nature has appointed the succession of labor and rest; for this she has provided the alternation of the day and the night. The motions of the earth and the necessities of our frames correspond exactly with each other. The day is the time for labor, and the night the time for rest. Yet we often partially, sometimes entirely, reverse this law, and turn night into day, and day into night. We sleep while the sun is shining with his life-giving beams, and work amid the deathful influences of darkness. Thus we are exhausted more, and refreshed less. Life and power are not sustained in their highest degree, and we are more susceptible of disease and pain.

Some will go farther than this, and add the night

work to the day toil. Franklin, with all his wisdom, seems to have had an unwise notion, that a man could work with his hammer from four o'clock in the morning until nine o'clock at night. Many will do full six days' work in the week, and add to this all the extra labor of going to market, of travel in public night conveyances. Six days' work a week, is the regular predetermined plan, and all variations from this are encroachments upon the time of rest.

Some seem to suppose, that although they would not transgress so far as to work in the night, yet they may perform their full day's labor, and devote a night or part of a night to pleasure, to charity, or to the acquirement of knowledge, and yet suffer none of the consequences of depreciation of life. But nature, though a generous giver, is a hard bargainer. She proposes no bargains, but if man does so, she makes a hard one for him. For every moment he takes from his natural rest, whatever may be the cause, he must suffer a loss of some of his natural vigor, and lay a tax upon his permanent constitution, greater or less in proportion to his delinquency; and invariably, in the long run, he will gain less ability for labor, and accomplish less by attempting to overmatch, or cheat nature, than if he trustingly take her upon her own terms.

SKIN.

The skin has a two-fold duty to perform. It is appointed to protect the body from the elements, and from external injury. It also aids the lungs in carrying off the wasted and useless elements of the body.

The insensible perspiration in health never ceases. This amounts to near two pints a day. These particles, like those that go off from the lungs, have finished their work of life, and seek this outlet. They are a burden and a poison to the body, and cannot be retained without injury. Our duty is first, not to interfere with or retard this work of relief, and next to aid this organ all in our power.

The perspiration, and the oily secretion of the skin, unite with the dust that floats about, and with the lint of the clothing and form a glutinous compound, which stops the pores, and obstructs the excretions of this organ, and interferes with its free operation. To relieve itself of this, the skin needs bathing, frequent and faithful.

We do indeed bathe the hands and the face, but these we wash to be seen of men, while the residue of the surface may be full of all uncleanness. Very few purify themselves with a daily bath throughout. Some indulge themselves in this as an occasional luxury, or submit to it as an unfrequent and dreaded penance; but the great majority of mankind feel no responsibility for the health of this organ, and from summer to summer, even from year to year, they do not wash, but carry upon themselves the corrupting waste that has ceased to live; the gathered filth, the accumulated excretions of months and years, remain upon their skins, a deadening clog upon their living operations.

Our natural defence against the elements is greater or less, in proportion to the vital energy of the skin.

This power of defending ourselves from the cold is a matter of development and of growth, not of entire and original creation. Like the strength of the muscles, it increases by use, and it diminishes by neglect. This is proved by the face, which is never covered, and is able to endure almost the severest cold of winter without suffering, because its powers have been taxed and developed; on the other hand, the skin of the breast, which is never exposed, is so tender, as to be hardly able to endure the temperature of summer, without the protection of clothing.

The same difference of power of endurance is seen in persons of different habits. The timid, who confine themselves to hot rooms, and never venture abroad without abundant covering, are chilled and suffer severely, when exposed to any storm, or to the open air of winter; while, on the other hand, stagemen, pilots and wagoners, who expose themselves to every variety of weather, are able to endure the severest cold and storm, with impunity and comfort.

The energies of the skin are reduced down to the level of the demands that are made upon them, however low, and they are nearly raised up to meet these demands, however high they may be; so we see those people, who always wear upon their persons a great quantity of clothing, always shiver if these are diminished; and those who wear comparatively light garments, will need no more, for their skins have brought forth great powers of protection, and will themselves do that work which we require of them. It is not a strange thing, therefore, to see two men

walking side by side, in winter, whose habits illustrate this principle. One accustoms himself to exercise abroad in every kind of weather; he has his daily cold bath, and now wears only his usual close dress; the other takes no bath, and goes out only in pleasant weather, and then he puts on his heavy extra garments. Both of these men are equally warm, the one by the natural energies of his skin and vigor of his frame, the other by his artificial covering.

Coughs and colds are frequent among our people, but they are more abundant among the timid and the over-cautious, than among the bold, that use their powers freely, and have no fear of the atmosphere. Shoemakers, students, and women, have these disorders much more frequently than farmers, carpenters, and sailors.

BRAIN AND NERVOUS SYSTEM.

The brain and the nervous system are the organs of thought and sensation, and the regulators and directors of all other systems of the animal body.

These seem to be more elastic as to their habits and powers, than other organs. The mind, the infinitely expansible mind, has been held up as the grand distinguishing characteristic of the human family, and this is not done without good reason; but whatever we may say of the mind, the spiritual essence — the physical brain, which is its organ of connection with this world, is not so lawless and expansible. It has its limits of power, of exertion and of direction; and

if not used aright, it is liable to disturbance and disorder, as are any of the organs of the animal body.

But there is a great proneness to disregard this law, to press the mental exertion to its utmost, to tax these powers as much as they can possibly bear. This is the most seen in the education of children, who are hurried onward in their pursuit of knowledge, and urged to become bright scholars, sometimes prodigies of learning, and their extraordinary and precocious development is hailed as the bright promise of a brighter future. But just so far as the brain is tasked beyond its natural power, and makes unnatural exertion, the consequences must be weakness and failure of all the previous promise. This is the effect of undue stimulation of the brain in childhood. The same result comes from the same treatment of the organ in after life. Weakness and derangement, dementia or insanity, come from undue use or improper application of its powers.

We are therefore required to suit the burdens imposed upon the brain to its capacity of endurance, not to over-load and oppress, and finally weigh down and destroy it; nor, on the other hand, leave it dormant and inactive.

MAN'S RESPONSIBILITY FOR HIS HEALTH.

These are some of the most important organs and systems of the human frame, and these are some of the essential conditions of their existence. No one of these organs is the seat of life, to the exclusion of

the rest. But any one of them may be the seat of death, and include all the others in its destruction.

God has created this beautiful frame with its hundreds of muscles and bones, its thousands of blood vessels and nerves, its complicated digestive apparatus, its nicely adapted lungs, its active skin — and all these he has formed into systems and organs, and given each a separate duty to perform for the general good. Each has its peculiar work to accomplish, yet not without the co-operation of all the rest.

All these systems and organs, varied yet harmonious, constitute the machinery of our life. This machinery, thus constituted and complicated, is placed in our hands to govern, to supply its wants, to adapt the elements of nutrition and excretion, food, and drink, and air, bathing, exercise and rest precisely to the necessities and condition of each organ; and out of the whole to produce the greatest amount of strength and health.

This is our responsibility, this is the harp of a thousand strings, which we are to play upon, and to bring forth the sweet music of energy and cheerfulness. We are to play, each one of us, upon his own harp. Whether we thoroughly understand the instrument, its powers and its uses, or whether we are perfectly ignorant of them, still we are to be the players, and the music, gentle or harsh, must be such as we individually are able and willing to produce.

Each one of our vital machines has its own director, and admits of no substitute. And the amount of vitality, which we shall enjoy will be in propor-

tion to the skilfulness and faithfulness of this direction.

This, I am aware, is a fearful responsibility, and some, in distrust of their competence to sustain it, would fain shrink from it. But all in vain is any attempt to escape. We must sustain this responsibility, or we must fall. No one can assume it for us, no one can take from us the blessed consequences of obedience, no one can bear in our stead the dread effects of failure; as we individually eat, and breathe, and move, so shall we alone live or die.

But there is a general notion, that some how or other, these laws of life are not quite so inexorable; and common and careless observation seems to prove, that they are not always so absolute in their requirements, nor so inevitable in their penalties. We are told that many are acting in opposition to them, yet are not cut off. One works night and day, and is not broken down; another never exercises at all, and yet has power of motion; a third eats all sorts of strange compounds, and has no dyspepsia; and therefore some think, tbat men may give free reins to appetite, may drive their muscular energies to their utmost tension, and the student may bury himself in his books, and yet expect to rise in unimpaired health.

But the judgment is sure, however blind we may be to it. Not every sin merits annihilation, but every one has its corresponding punishment. The loss of that specific strength, or power, or comfort, which obedience would have given, is the first result of neglect. That specific pain or disturbance, which is

the natural consequence of error, is certain to follow. As we have no exact standard of health, no precise measure of life, we cannot easily determine when and how far we fall short of either. If we are about as well as our neighbors, we flatter ourselves that we do not suffer, although we do come short of that fulness of vitality, which we might have obtained.

The laws of life are as fixed and unalterable, as are the laws of matter. The ebb and flow of the tides are not more certain, than the ebb and flow of the blood. The predominant affinities of one acid over another for certain alkalies, are not more clearly demonstrated in the chemical laboratory, than the affinity of the oxygen in the pulmonary air-cells, for the carbon in the blood.

These laws are written in every human constitution, they are visible to every eye, they can be recognized by our own sensations. They have thus been proclaimed ever since the world began, but man has been slow to read, and dull to understand, and still more unwilling to obey.

It is melancholy to see, how many of the habits of mankind, and how many of the customs of society are established in contravention of these laws. It would seem as if men were ignorant of them, or did not consider them as designed for human government.

We have therefore devoted our organs and powers to purposes, for which the Creator did not intend them. We have forgotten the designs of our present being; we have mistaken the means for the end.

We have sometimes eaten for appetite rather than nutrition. We have toiled for riches rather than for exercise and support. We have involved ourselves in corroding cares and distressing anxieties about things, which are not for us to do or to accomplish. We expose our bodies to undue heats and colds. We have wrong notions of self-sacrifice; we give up that which is not our own, but only entrusted to us by God for a special purpose. We undertake burdens, which the Creator has not given us strength to bear. We admit the caprices of fashion to influence our clothing, and often sacrifice comfort and health to our notions of beauty.

The texture and form of our garments are selected to please other men's eyes, rather than to meet the law of our necessities. These necessities are permanent and universal. Yet we see strange contrarieties in the shape of the garments in different persons, and in different years. At one time, fashion commands that the collars of our coats be full and reach the head, and that the neck be encased in shawls and scarfs, and heated to constant perspiration. In another age, the same fickle governess directs that the collars be low, and the neck be left open and exposed even to the wintry cold. We see, in the winter, men shod in the stoutest water-proof leather, walking by the side of women clothed in silken hose and satin slippers, and both seem to imagine they are obeying the same law of life.

The stomach is the instrument of hospitality; and a man proves his love for his friends by filling

this organ. Disregarding the wants of nutriment in the frame, men are called to eat together, in public or in private, of quantities and qualities of food, that the digestive organs cannot convert into blood, and the nutrition of the body does not require.

In this entertainment of friends, it is wonderful to see how minute is the gnat, which the entertainer will strain out, and how monstrous the camel, which he will swallow down! How anxiously careful he is about trifles, and how indifferent he is concerning matters of importance! How diligently provident he is about the flavor of his wine and cigars, and how reckless he is, whether his food be digestible and nutritious, or not.

A lady proposes to have a large party at her house. She designs to give her friends the keenest intellectual and physical enjoyment, the highest exhilaration. She provides the richest and nicest eatables for their palates, but she feeds their lungs with the foulest air. Her apartments can contain no more air than is sufficient for the respiration of her ordinary family, nor more than is enough for the purification of the blood of six or seven persons, as it incessantly flows through their hearts. Her table is measured out according to the every-day wants of her household. But now she carefully numbers her invited guests and enlarges her table correspondingly, so that there shall be no lack of eatables, which they do not want, and which probably will be injurious. But she neither enlarges the capacity of her rooms, nor increases the quantity of air, which they must have.

What indigestible provision would be sufficient to feed her own family with dyspepsia, is now multiplied manifold, to meet the increase of mouths, but what air is no more than sufficient to supply her usual family with breath and purify their blood, is now distributed among, and made to supply a multitude; and this hospitable entertainer, mistaking the means of benevolence, serves out death without measure, while she deals out life with the most niggardly economy.

In this hospitality, the appeal is made to one sense only, while the others are neglected. Taste, the palate, seems to be alone thought worth indulging; and so accustomed are we to this species of gratification, that it might seem strange to propose to substitute another in its place, and appeal to the eye instead of the tongue.

People eat at their regular meals all that they need, all that their stomachs can easily digest, or their nutrition requires, — of course then, all that they can permanently enjoy. After the day's work is over and the day's food is consumed, they gather in parties where refreshment is again offered them of tempting deliciousness. The single sense of taste is gratified; but the stomach is burdened, and the energies of the whole frame are taxed in order to digest this food, which is not wanted. Digestive disturbance, and some general languor necessarily follow. The evil consequences are more than momentary, they may be lasting.

It as rational and as pleasant to gratify the eye as

it is to gratify the palate. It is as humane to burden the skin as it is to burden the stomach. If, therefore, our hostess should hope to entertain her company by providing a vast number of cloaks of the most beautiful texture, and most gorgeous colors, and invite her company to put them on, yea more, urge them to pile on as many as they could carry, no matter how much they may heat the skin, and oppress the body, so long as they please the eye, she would have as healthy, and to the physiologist, as rational a mode of entertainment as that which is now adopted.

It would seem most ludicrous to do so. But, if we we were not accustomed to our present practice, this would appear equally ludicrous. It is surely as generous and as hospitable a method of entertaining our friends, when they visit us at our houses, if we were thus to provide the means, and ask them to sweat for us, with the certainty of some debility, and the remote chance of some cold and rheumatism, as that which we now offer, when we ask them to digest for us, with the certainty of some oppression, and the remote chance of some dyspepsia.

If it were not a matter of such grave importance to health and to life, it would provoke a smile to see with what sincere assurance a man, who intends to be generous and give enjoyment, asks his friend to lend him the use and the comfort of his vital organs. But this is among the acknowledged customs of society.

It is said that Dr. Franklin, when, in the early stages of the revolutionary difficulties, the British

ministry proposed to him, that the Americans should pay for all the expense of their attempts to force them to submit to the Stamp and other oppressive Acts, provided that those offensive laws should be repealed, told them the story of the madman, who ran into a street, and with a red hot poker in his hand, and asked a passenger to allow him the privilege of running it into his body one foot. This was refused. He asked to be allowed to run it in six inches — then one inch — and when he obtained no permission of this sort, he asked, with the utmost sincerity, if the man would not have the goodness to pay him for heating the poker.

This story finds a parallel in our hospitable entertainments.

Our host offering to his friends his great variety of richest food, of most exquisite cookery, practically says to his guests: "Allow me, my friends, to give you a little indigestion." Probably they indulge him, but perhaps they have the courage and good sense to refuse. Not to be foiled, he offers the wine: "Permit me, my friends, to disturb your nervous system, and suspend the clearness of your brain." Still they may not yield. Holding out his cigars, he says, "Allow me, my friends, to disturb your respiration and befoul your breath a little." If their courage hold out, so does his, and with all the self-satisfaction and sincerity of the madman in the story, he says, "Then, gentlemen, you will have the goodness to stultify yourselves so far as to give me the credit

of being very generous, and doing all this solely for your comfort and happiness."

DEPRECIATION OF LIFE.

The consequences of all these violations of the law of life, are seen in the diseases, the debility and the premature death that come upon almost all mankind.

Threescore and ten are the years appointed for man; but few and feeble are they, who thus fulfil their days on earth; and it needs no prophet to tell us that, until we learn to live according to God's appointments, we must fall short of this measure.

The average duration of life differs very widely in different places, and still more widely among different classes of society. But in all it is short of nature's intention.

The average age of all, who died in Massachusetts during three years, ending May, 1844, was 33.74 years. And from calculations made from the records of various periods, the average duration of life was, in

England and Wales . . .	33.74	years.
Prussia, ...	27.77	"
Sweden, ...	27.00	"
Russia, ...	19.18	"
Concord, Mass.	38.87	"
Dorchester, "	32.54	"
Plympton, "	40.88	"
Louisville, Ky.	17.87	"

In the most favored of these towns and countries there was an average loss of three-sevenths of life, and the most unfavored more than five-sevenths.

In analyzing the people into different classes, according to their social condition, it is found that the burden of death lies much heavier upon the poor and the ignorant, than upon the prosperous and the intelligent. The Report of the Poor Laws' Commissioners upon the sanitary condition of the laboring classes of England presents some astonishing facts in illustration of this position. The average duration of life of the families, including fathers, mothers and children, of the comfortable and poor was, in

	Comfortable.	Poor.
Derby, ...	49 years .	21 years.
Bethnal Green, ...	45 " .	16 "
Liverpool, ...	35 " .	15 "

The same was shown in other parts of England.

I found similar facts in Dorchester, Mass. I analyzed the bills of mortality for twenty-seven years, and found the average age of farmers, who owned their farms, including parents and their families, was . . . . . 45 years.

Of the poor, ... 27 "

In Concord, Massachusetts, the age of the comfortable was . . . . . 44 years.

Of the poor . . . . . 24 "

Wherever I have been able to obtain the facts, I have found a similar difference of value of life among the prosperous and among the indigent. I doubt not the same would be shown in Hartford, and throughout this and all the other states. Here we have the irresistible fact, that from the wealthy and intelligent, from two-sevenths to one-half their life is taken away, and among the poor from one-half to four-fifths is lost.

Nor is this all, that we fall short of our destiny on earth. Even this short period, averaging throughout the world much less than thirty-five years, is diminished at every stage, reduced at every turn, and taxed throughout with innumerable burdens. The whole catalogue of diseases, whose name is legion, is born by our race.

Deduct the months during which we are prostrated by disease, and under the control of others — deduct the seasons, when, though we are not diseased, yet are invalids, with constitutions broken and powers wasted, dragging on a wearisome existence in premature old age — deduct the periods when our energies are somewhat paralyzed, and our strength so far reduced below its just standard, that we cannot enter upon the full tide of active business, which men in health freely venture upon, and therefore enjoy less and accomplish less than other men — deduct the periods when we are slightly ailing, whether from cold, from headache, or other trifling cause, when our frames are sluggish and our resolutions dormant, when we cannot do in the day and the hour, its own appointed work — deduct the times when we are heavy, stupid and inactive, when our energies are absorbed in digesting improper or excessive food — lastly, deduct the moments when we are irritable in temper, timid of purpose, or gloomy in spirit, when our moral powers are weakened and disturbed, and our mental faculties confused or oppressed — add to all these deductions the thirty or forty years that we lose by premature death, and then deduct the whole

from a complete human life, threescore and ten years, from two thousand, five hundred and fifty-five days of health, unimpaired by any sickness, and unalloyed by any pain; and it is wofully manifest how small a portion of our natural destiny we obtain out of the means and facilities which a generous Providence has placed in and about us.

Seeing, that our short comings of life are so great and so manifest, it is worth a serious inquiry to learn the cause, and a resolute endeavor to remove it.

It cannot be questioned, that this depreciation and shortening of life are mainly chargeable to the general ignorance of the conditions of our existence on earth, and to a consequent failure to fulfil them. The knowledge of the Laws of Physical Life has not been and is not now considered requisite for the conduct of our lives. Nor are the young instructed in these, in order to prepare them to meet and avert the ills that flesh is heir to. Physiology has not been included among the necessary studies of our schools, nor have men in older life thought it worth their while to attend to it.

Other matters have been examined and learned. Natural Philosophy is taught in our schools. It is known more or less to all; almost every man acknowledges and acts upon its general principles.

The laws of gravitation are so universally understood, that no man is so simple as to dig his ditch for water to run up hill. All are so familiar with the laws of mechanics as to make a ready and correct use of the inclined plane, the screw, and the wheel and axle.

Chemistry and its terms have become almost as familiar as household words; and in our employments, and in our domestic operations its principles are not usually violated. But the principles of Physiology have been regarded as belonging to one of the occult sciences, which might interest the student, but had nothing to do with the practice of every-day life.

We therefore see men managing their farms and carrying on their mechanical operations in wisdom, while they manage their own bodies in folly. Before a man assumes the care of a machine, he examines its parts, he learns its uses, the means of its movement, and the purposes to which it is to be applied. With this knowledge he is ready for his responsibility. He provides the proper material, with which it is to move; and that, upon which it is to operate. But for the management of his own vital machinery he makes no preparation. Hence he makes such mistakes in the conduct and use of his own body, as he would be ashamed to show in regard to his wagons, his water-wheels, or his spinning-jenny.

If a man, when he has woven his web, should put into his loom a parcel of sticks and wire, and then set the loom in motion, just for the pleasure of seeing it move, or perhaps in the hope that the loom would, out of these hard materials, make cloth as well as out of cotton and wool, he would do a very foolish act; but not more foolish than, when he has eaten enough for nutrition, he eats indigestible and innutritious matters, just for the pleasure of eating. No engineer

would pour upon the gudgeons and pistons of his engine acids instead of oil, just for a change, because this would be in opposition to his knowledge of the laws of mechanics, and spoil his machine. Yet he will pour wine and brandy, and tobacco juice into his stomach, and tobacco smoke into his lungs, which are infinitely more delicate organs than any thing of wood or iron.

If a dyer should use his old dyes over and over, and expect to produce fast and deep colors, or if the chemist should use acids over and over and expect to produce good salts, he would show himself so ignorant of his business as to lose employment. Yet men will breathe air over and over, and seem to expect that, by these imperfect means, they shall purify the blood.

If the laws of life were as well understood as the laws of matter, we should see no more mistakes in the management of our bodies, than we do in the management of our machinery; and if Physiology were as well taught in school and elsewhere as Natural Philosophy, its principles would be as familiar, and as ready for use.

The remedy then, for these evils and errors, is to incorporate the study of Physiology in the course of universal education. Give this science a prominence in all our schools, in proportion to its importance, to its bearing upon human health and human life. Then will men be saved great suffering, and be so far prepared to fulfil their natural destiny on earth.

NOTE. On account of the great length of the preceding Lecutre, and want of time, part of it was omitted at Hartford.

The readers of the Christian Examiner will here recognise many of the sentiments and some entire paragraphs which I published in that Journal for July, 1843, and which are here taken without acknowledgment. E. J.

DORCHESTER, Mass., *Oct.* 17, 1845.

LECTURE V.

ON

INTELLECTUAL ARITHMETIC.

By F. A. ADAMS,

PRINCIPAL OF DUMMER ACADEMY, BYFIELD, MASSACHUSETTS.

In saying to you what I may be able to offer on the topic allotted to me, I need not occupy your time with remarking in general on the importance of the study of Arithmetic in schools: a study whose results are of universal application in common life; and the pursuit of which furnishes in a higher degree than any other one study, an easy and sure means for the discipline of the mind. Its various stages, too, are fitted for every variety of age, and for all degrees of mental power. Arithmetic, therefore, holds and should hold a prominent place among the studies of the common school. Perhaps it is not too much to say, that on an average one half of the time spent in study in our common schools is occupied with this branch. Besides the

liberal share of time uniformly allotted to it in the regular arrangements of the school, this study is a kind of reservoir into which are thrown the fragments of time not taken up with other things. It is the residuary legatee; or the old official, entitled to all the waifs and strays; so that in supposing that one half the time in common schools is occupied with arithmetic, I may have estimated it below, rather than above the truth. From this fact alone, if from no other — from the amount of time employed in this branch of study — the subject before us invites our sincerest interest, and the best thoughts we can bring to it. A small saving in a boy's time, when he is one of a million, and the saving may be applied to the million as well as to one, becomes an immense gain: in the first place, because "*time is money*," and, secondly, because that time employed in vain, without fruit, is worse than the absence of money; it is counterfeit money.

The terms in which my subject is expressed, Intellectual Arithmetic, at once suggests to us the great change that has been wrought in the whole department of arithmetical instruction, within the recollection of most of those who are present. It is not many years since Intellectual Arithmetic began to receive any attention as a distinct object, in the studies of our schools. The only apparatus for arithmetical study was the slate and the old book, full of mysterious questions, and bristling with rules. In most cases the analysis of the principles involved in the operations was not attempted. The pupil was given

up to struggle on his way as he best could by rules, the sense or reason of which it was utterly beyond his power to comprehend. And it is no reproach to the teachers of that day to say, that, with few exceptions, they wrought in the formal and mechanical spirit that then prevailed. Why should they have been in advance of their time? To say, as is sometimes said, that the old system did, after all, make good arithmeticians, is claiming, as to the fact, the exception for the rule; and imputing success, when it did occur, to what was in reality an obstacle to such success, and not a help. No one was ever made an arithmetician by rules that seem entirely disconnected with an ultimate analysis of the properties of numbers. No generation, indeed, is destitute of some who will be distinguished in whatever branch of study invites their attention; but such owe their progress to something else than a system of rules whose application is, to such a mind, harder to discover than it is to do the work which the rules were intended to facilitate.

Having spoken thus of rules, perhaps I ought to say a word more, that I may not be misunderstood. There are cases in which the formula, by which a question is most readily solved, is reached by so long a process of reasoning, that, even by the aid of the most lucid statement, the analysis cannot be at once grasped by the mind. Here, manifestly, the reasoning must be dropped, and the formal rule employed, which expresses only its results. An instance of this kind, for ordinary capacities at least, may be

found in the rule for the summation of a geometrical series.

In the summation of the arithmetical series, however, the formula may be so easily deduced from a right presentation of the series itself, that there can be no excuse for presenting it in a way which shall fail to suggest the reasoning through which it is attained.

Another instance of the difference between an intelligible statement of the method of procedure, and an arbitrary formula, is seen in the different ways of finding the least common multiple. To say nothing of the incorrectness of the common rule, which in many books is given wrong, it is even when correctly stated, so unintelligible that not one pupil in fifty understands its operation. When the method, however, is given in its most simple and direct form, as derived from the properties of prime numbers, any pupil of ordinary capacity will understand the grounds of the rule at once.

I need not speak at length of the strong contrast which the present method of conducting the study of arithmetic in our best schools presents, with the arbitrary and mechanical methods of former days. The substitution of mental for written arithmetic in all the earlier operations has opened the way to the first steps of the knowledge of numbers for all, even in early childhood; while the habits of thought and analysis thus awakened, have had a most marked and happy influence through the more advanced stages of this study.

This substitution of the natural for the unnatural, the rational for the mechanical, the analytical for the formal, in the study of arithmetic, is doubtless to be regarded as a part of the general movement of the age on the subject of education. Like changes in other branches of instruction, though probably more marked than can be found in any other one, it indicates a better understanding and recognition of mental laws in the business instruction; a closer sympathy with the young in their toils, and a higher estimate of their capacities and the value of their time. As a part of a general movement, this change would undoubtedly have taken place independently of the agency of any one individual. In justice, however, to our subject, and to the memory of one whose name is intimately associated in your minds with it, I may say that the want of the time was most happily met, I might almost say anticipated, by Warren Colburn, in the preparation of his admirable First Lessons in Mental Arithmetic. The gradually increasing use of this book in schools, its present very wide circulation, and the high appreciation in which it is held, are at once a sufficient proof of the manner of its execution, and of the value of the general method of instruction of which it is itself the best exemplification we have. The happy influence of the analytical method on the progress in arithmetic, on the enjoyment, and the general mental development of the rising generation, is a topic I need not dwell upon before you, even if I had time. I beg leave, however, here very briefly to present a

picture of the old and of the new, of which I have been speaking, as the cases once occurred in close connection under my own observation.

In one of my earlier essays at school-keeping, I had among my pupils a young man who had for several winters been engaged in ciphering, and whose size, dress and bearing might indicate that he considered himself nearly through his education. Mental Arithmetic had, years before, been introduced into the school where he was, but it was not until he had already entered on the higher work of ciphering. To make the retrograde movement, therefore, of going back into a book of First Lessons, was a concession which a young man of his spirit and standing, of course, could not be expected to make.

This young man brought to me one morning with a somewhat ominous air, a question in arithmetic, wishing me to attempt its solution. That I might not be ignorant of what I was coming to, he very considerately informed me that that question had been kept in that district a great many years, and used to be given to the schoolmasters of the district, and it had never once been answered. This question then, you perceive, was a kind of wheel to break the schoolmasters on. It had served the former generations well in that time, and, after long disuse, was now brought forward to try its virtues once more.

The question proposed required the analysis of a complex fraction, but was not a difficult one of the kind. I explained it to the young man, continuing about my work mending pens; but my pupil did not

seem to take great interest in my endeavors; he did not at all understand me, and evidently did not think much of the explanation. I had taken no notice of the large and well cleaned slate he had brought up for my use; had spent but little time about the question; and as he observed none of those agonies of baffled genius which seemed so plainly called for on the occasion as to be, in his mind, an essential part of a good solution, he was evidently disappointed. His courtesy would not permit any expression of his disappointment, but it was plain to see, as he quietly retired to his seat, that he was feeling that the solution that had been offered was rather a failure. As I was a little interested in the manner in which this question had been brought before me, I did not drop it from my mind at once; I thought I would take my turn in asking a question; I would look this Sphynx in the face, that had been kept from of old to devour unoffending schoolmasters. I carried the question home to my boarding-house, and stated it without change to a boy seven years old, too young to attend the winter school, who had been two-thirds through Colburn's First Lessons. With but a single direction on my part, and that of the shortest kind, respecting his procedure, the little boy answered the question in less than a minute.

I am not aware of any extraordinary native genius on the one side, or dulness on the other, that may be called in to explain the facts of the case, as I have stated them; and as the illustration occurred without my seeking, I adopt it, and offer it to you, as a pretty

fair exponent of the old fashion, and of the new, in arithmetic.

How far then shall this system of mental analysis in the study of arithmetic be carried? What is the proper place which Intellectual Arithmetic ought to occupy, whether as a part of the arithmetical discipline of district schools, or as a preparation for higher arithmetic and mathematics? This is a question, I may say, that has hardly as yet received a deliberate and thorough consideration. So well satisfied are we with what has been already gained in the application of the purely mental process to the first steps of the study, that we have forgotten to inquire, whether an extension of the same general principles through the higher stages of it, might not be attended with results as favorable as we have already witnessed in its initial steps? My own conviction is, that this inquiry may be safely answered by an unqualified affirmative. This conclusion I have come to from the analysis of the mental processes concerned in numerical calculations; and my conviction has been strengthened by some experience in this method of instruction; an experience, very limited, indeed, as it must of necessity be in the want of any appropriate book for the more advanced study of Intellectual Arithmetic.

The little that I can contribute, therefore, to the interest of this occasion I would do by offering to your consideration this proposition: that the true end of the study of arithmetic, whether for the purposes of common business, or as the foundation for higher mathematical studies, may be best attained by a much

more extended pursuit of Intellectual Arithmetic than has hitherto prevailed. Let me here say a word as to the true idea of Intellectual Arithmetic. I do not understand by it a laborious imitation, in the mind, of the artificial and arbitrary methods of ciphering. Many things in the methods of written arithmetic are necessitated by the single fact that the operation is a written one, and are widely different from what the laws of the mind would naturally dictate, viewing the numbers independently of writing. I shall speak of this, however, more fully in another place.

I may assume at the outset, I think, that the present results in the study of arithmetic are not satisfactory; that they fall so far short of this, as to invite earnest aims at practical improvement. These deficiences will perhaps appear in a sufficiently strong light by an enumeration of some of the ends which it is reasonable to expect may be secured in the time usually devoted to arithmetic in schools. The subject, of course, admits of only general statements here. A few points, however, stand out so prominent that all will on reflection acknowledge their importance, and regard their attainment by pupils as no more than due to the liberal allotment of time made for this branch of study.

First, the study of arithmetic should so develop and practise the student's powers of reasoning on numbers, that he can thoroughly and readily understand the analysis from which the rule for any operations he is performing is derived. In other words, he should be master of the rule, and not the rule his mas-

ter. He should be master — not by dint of memory of the words which express the rule, but master of its ideas, and of its grounds. He should be able to look over and through the rule, and not be a slave to it. In this way he will be able frequently to substitute a shorter process than the one prescribed; he will invent a new rule; or, best of all, he will work so understandingly, that seeing the end before him, and knowing his means, he will work towards his end without being conscious of the guidance of any rule at all, any more than a practical workman in the arts, thinks of a rule, while he turns from his hand, one after another, the beautiful specimens of his craft.

In making this requisition on the study of arithmetic, we do no more than insist that it shall be thorough. We claim no more than is due to every branch of study in our schools. To take any lower view of it than this would be, just so far, to debase it. It would remove it from its true ground, that of a liberal, and, at the same time, a practical discipline, and render it merely practical, and that in its lowest sense. I need not say that no study in schools should be treated, or, at this day, can be treated in this manner. They have all alike reference to the enlargement and accomplishment of the mind, certainly not less than to the craft or business of life; and, in this sense, are liberal studies, though not belonging to a college course. The time is past, in spite of the decision of a judge I once heard, when all the knowledge that a boy wants of geography is just enough to show him the way to mill.

I might say, in behalf of this thorough method in Arithmetic, as indeed in regard to all studies, that this is the only way to secure the hearty and permanent interest of the pupil. We cannot cheat or circumvent the mind of a child. As we sow, then, so we must reap. If we treat the mind as a drudge, it will hate the tasks we set it. — I am aware that by the stimulus of fear, by the hope of flattering tokens of distinction, by a system of discipline, in school and at home, which shall aim at the single object of the greatest possible amount of study, very striking results may be produced on a system that shall violate some of the most important laws of the mind. But these influences I have named, have their day, and then are done. We do not look to them as the seeds of a long continued and manly growth. They do not go far into life beyond the days of schooling; and, when the lower motives mainly have been appealed to, the first conscious freedom of such a one, will surely be employed in casting off, as far as possible, every trace of these old abuses. We must treat the mind worthily — appealing to its highest powers, and encouraging their noblest use, and then it will worthily reward us. But I need not extend these general remarks, which are heard frequently enough to show that they have some hold on the public mind. It belongs to me here only to say, that in the study of arithmetic, if we would see the best progress, and awaken in the pupil an unfailing love for this branch of culture, we must, from first to last, place the head above the hand, the reason above the rule.

I mention as a second result that should be secured by the study of arithmetic, the power to seize at a glance some approximate answer, when numbers are brought together as the terms of a numerical calculation. I do not here mean that such a power ought to be expected in the case of numbers that are vastly large; nor on the other hand do I mean to restrict the numbers to the limits of the multiplication table. I refer to numbers large enough to embrace a majority of the cases that occur in actual business. The pupil should have the power of grasping such numbers so understandingly, that he can immediately find a proximate answer, in the case of any ordinary operation upon them. I feel sure of your acquiescence in the justness of such a requisition. You will agree, that, if a pupil has not, in some considerable degree, this ability, however much he has ciphered, his real power in numbers must be pretty small. Yet there is perhaps no point in which an entire want of power is shown by students in arithmetic more frequently than in this. Teachers will understand me at once, and others may perhaps recur to the recollections of earlier days, when I speak of the absurd mistakes which are often committed in school, solely from the want of a little power of this kind — a little power of knowing what one is about when he is ciphering. The pupil seems to have no ability to exercise a censorship over his own method, and the general correctness of his work, by glancing his eye over the numbers; but having wrought, as he thinks, in obedience to his taskmaster, the rule, and failing to meet the requisitions

of the book in his answer, he brings up to his teacher, in all innocence, as absurd a thing as can well be written in figures. Perhaps he has multiplied two decimals, and obtained a product larger than either or both the factors; or he makes the interest on money for two years somewhat greater than the principal. And why should he not make mistakes of this absurd kind? He has been advised, indeed, to think and reason, but he has been trained only to cipher. I speak not this in the way of reproach, either against authors or instructors, but as a fact belonging to the system.

The infelicity I have here spoken of, which presses so hard on teachers, and is so discouraging to their pupils, has, I think, a natural and sufficient ground in the almost exclusive pursuit of written arithmetic, and the consequent neglect of higher Intellectual Arithmetic.

By pursuing exclusively written arithmetic, the pupil becomes habituated to arbitrary methods; to rules, which have reference solely to the convenience of writing. In most cases he begins with the units and works back into the higher orders, and almost always treats each figure before him as expressing so many units, whatever be its true rank and value.

Now, it is evident that this process, so far as, by incessant reflection, it can have any influence in shaping the student's habits of thought, must of necessity tend to withdraw the mind from all reasoning and reflection on the numbers as they really are, and train him only in a ready calculation of units, and in an expert use of the pencil. It is in vain to expect, that,

against the incessant influence of such an arbitrary and mechanical system — a system which seems to bestow a premium on vacuity of thought — that the occasional demonstration of a rule, or the explanations of the teacher, are to make good in the pupil's mind the habit of general reflection and reasoning on his work. We have, therefore, no occasion to be surprised at the feebleness which is generally observed in students in arithmetic in their attempts at reasoning on their work; and I leave this topic by remarking that here is one particular in which it is natural and reasonable to desire a great improvement.

A third point which the study of arithmetic ought to secure, is the power of performing calculations mentally on somewhat large numbers.

I would speak of such a power of mental calculation, first, as a great convenience in the way of business. When you see a clerk in a retail store, after spending three minutes in doing up a parcel for you, go across the room, take his place behind the desk, and make half a dozen figures, and spend three minutes more in order to tell you how many cents you owe him; you may very naturally, I think, indulge the feeling, that the young man has not yet learned to make the best use of his time or of his head; nor how to get the most pleasure out of his business. In more than half the questions that arise in common business, which are usually solved by writing, the solution obtained mentally would be more expeditious and more unfailingly correct. To say that it would

be pleasanter is only saying that a natural process gives more pleasure than an artificial one.

Besides the frequent demands for the power of mental calculation in the way of business, there are a thousand questions of curious or useful interest meeting men in daily life, the solution of which would at once give pleasure and increase their stores of knowledge; and would be very easy, were the power of mental calculation cultivated to any considerable extent. But in the absence of this power there is too much inconvenience attending the calculation to justify us in expecting that it will often be performed.

The apparatus for the calculation must be looked up, either in the form of pen and paper, or of slate and pencil; and it is found easier for one to abate a little of his curious interest and let the question go, than to be at all this trouble. Thus questions which meet every one daily — questions of earnings, of loss and gain, of production, of population; questions in science — such as relate to the constituents of organized substances, to the comparative weight of bodies, to the speed of light, of sound, of falling bodies — these, and a multitude besides, which no one fails to meet with, are suffered to escape unheeded, for the want of the power to seize them, and, by mental analysis, extract from them an instructive numerical result.

You will not regard the attainment of such a power when aided by appropriate instruction, beyond the reach of ordinary capacities, if you bear in mind that business men often, without any instruction, invent for themselves methods of mental calculation which

supersede to a great extent the processes of written arithmetic. Like the stiff copy-ha d of the school-room, the mechanical methods of written arithmetic will, in the pressure of business, be made to give way in many points to methods more clear, and direct and certain.

Now, the course of instruction in the school-room ought to initiate the young and lead them on in those methods of calculation which the practice of maturer years will be sure to press on their attention; and the want of a more thorough and systematic training in mental calculation is undoubtedly regarded by reflecting business men as a deficiency in our usual methods in the school-room. In the course of some remarks which I once incidentally heard from Governor Barbour of Virginia, on the subject of education, he spoke of the want of more thorough instruction in mental arithmetic, as in his view the most prominent defect in the usual course of instruction in schools. Said he, "I never use figures in ordinary calculations. I have been in the habit of doing a great deal of business for thirty years, public and private. I have settled a great many estates, requiring interest to be cast on partial payments, but I make no use of figures; I think in half the cases they are only a hindrance."

We shall not forget, of course, that even when under the shadow of a great name, we retain the right of private judgment. We may not go as far as to sympathise fully with the opinion I have quoted. But I have never reflected, without much interest, on the remarks to which I have alluded; and they are

certainly entitled to very respectful consideration, as the testimony of a man of very wide experience in business, and of the soundest mind.

Abating whatever we needs must, on the score of a man's partiality for his own way, and abating somewhat further because the head-work here spoken of was the work of one of the largest heads in the country, enough still remains to commend to our consideration the great value of the power of mental calculation for men of business.

I have now mentioned the three points which I regard as the most important to be secured in a course of arithmetical study. I have not named them as embracing every thing desirable, but as points which, if secured, will be seen to bring every thing important in their train, and without which there will be found somewhere a large deficiency.

I will now mention some considerations which convince me that these ends may be best attained by a more thorough pursuit of Intellectual Arithmetic in schools. I will first say a word to obviate an objection that may be sometimes cherished against Intellectual Arithmetic, as if its processes were less secure against error than a written calculation. Natural as this objection may seem, it is quite unfounded. It may easily be shown that within the limits of such numbers as do not, by their magnitude and complication, overburden the memory, there is an advantage in point of accuracy in the purely mental process. I mean by this, there are fewer chances for mistake. In a written calculation the mental work must first be

translated into written characters, and then, if the final use of this answer is a verbal one, these characters must be translated back into words; or, if the answer is to be a matter of record, it must be copied into its place. Now, in this process there is certainly some liability to error, which the purely mental method avoids. The hand does not always obey the mind, nor will the eye read the answer from paper with the same steadfast accuracy with which the mind grasps its own results without the aid of figures.

With this preliminary observation, I would urge a more thorough study of Intellectual Arithmetic;

First, because its methods are in conformity with the genius of our language. If I multiply mentally 356 by 7, I take the numbers of the multiplicand in the order in which the language presents them, first the 300, then the 50, then the 6; 7 times 300 are 2100; 7 times 50 are 350, which added to 2100 make 2450; 7 times 6 are 42, which added to 2450 make 2492. Here all comes naturally; you take the numbers as the language gives them to you, you begin with the number the language first presents, and preserve the order of the language through.

Compare, now, with this natural course, the method of ciphering; 356 by 7; 7 times 6 are 42, 7 times 5 are 35 and 4 are 39, 7 times 3 are 21 and 3 are 24. Ans. 2492. Here, to say nothing of regarding the numbers in the false light of naming them all as units, your whole process has been backwards. The number given you was three hundred and fifty-six;

you have multiplied it as six and fifty and three hundred. You have broken up, and thrown away the order of association in which, from the first utterance of childhood to gray hairs, the numbers are, without exception, presented in the use of language, and substituted for it an order directly the reverse.

Now it is too plain to require proof, that a method of calculation that dispenses entirely with the strong association formed by language, and adopts an association that has no support in the usage of the language, must, from this source alone, labor under great disadvantages. To say that the written process furnishes an answer as accurate as the mental one, is saying what certainly will not be denied, so far as the answer solely is concerned. The evil is, that it substitutes an arbitrary for a natural method. It does not lead the pupil through a process, in every step of which he sees his way, and is aware of its bearing on the final answer. He follows an association to which there is no response in his mental habits. He gropes through the process, correctly perhaps, but not intelligently, and nothing seems natural about the work until it is done.* Should any one say that the

* In the operation of adding numbers, the same difference between the mental and the written method is found. In adding mentally we take numbers of the highest order, then those of the next lower, taking the numbers as the usage of the language presents them. In ciphering, however, we take the units first, reversing the natural order throughout. In subtraction it is the same. In operations in division it may appear, at first, that there is no difference in favor of the mental process, inasmuch as written Arithmetic begins here with the highest orders of the dividend.

association occasioned by the usage of language in these cases, is just as arbitrary as the contrary one employed in written arithmetic; it might be replied, even admitting the truth of what is assumed, that, as the usage of language is incessant, it has become second nature; it is already in the possession of the ground, and it is for us to accept the unbending fact and turn it to the best account. The question whether the order in which our language presents numbers, is abstractly the best, whether it is most in conformity with the ultimate laws of thought, is an inquiry which might admit of some discussion. The usage of languages here is not uniform. The ancient Greek presents numbers in an order directly the reverse of the English. In the Greek the number is not named as three hundred and fifty-six, but six and fifty and three hundred; and as this is the prevailing usage of that language, it would have made our method of written arithmetic the natural method in their case. A Greek, in multiplying six and fifty and three hundred, would naturally begin with the six, because it is named first in his language. A method which violates the genius of our language would have been in strict conformity with theirs.

Which of the two languages has, on the point now before us, the advantage, is a metaphysical question rather than a practical one, and as such, does not in-

But this apparent advantage it loses by another arbitrary fiction, that of regarding the numbers in the dividend as of the same order with those of the divisor; while the mental process treats all the numbers in their true character at every step.

vite a protracted discussion here. I would suggest however, that our own method seems to be the result of a more extensive knowledge of numbers, and greater familiarity with the processes of numerical calculation.

But, whatever may be the answer to this question, our own usage is fixed; and, so far as we cannot conform our methods of calculation to that usage, we are losers. I will invite your attention now to a second advantage in the method of Intellectual over those of written arithmetic.

By commencing the operation with the highest order of the numbers, it obtains, *at the first step of the process*, a large approximation to the final answer. This is a feature of no small importance. It furnishes a natural stimulus to the mind, and rewards it largely for its labor at the outset. To take an example in multiplication; in multiplying 852 by 7, *mentally*, we obtain 5600 at the first step; so much is secure. This may be increased somewhat, but the fact that the answer is somewhere above 5600, and cannot be double of this number, gives at once an intelligible aspect to the whole operation. It gives the calculator at once a vantage ground, from which he can look down on the process, and feel himself the master of it. Let us now look at the written process. It begins 7 times 2 are 14. What do you now know? Why, that 14 is a part of the answer; that the answer is somewhere above 14. And so indeed it is. The work when done will show that the answer is more than 400 times 14. Instead then of obtaining

at the first step, as you do by the mental process, the larger part of the answer, you obtain less than a four hundredth part of it.

You will agree with me certainly in saying, that so far as the natural attractiveness of the operation, and the mental stimulus it affords are concerned, the advantage in the example before us, is very much on the side of the mental process. What interest can the mind take in the few units of the answer, obtained at the first step of the written process, when they are soon to be overshadowed, as it were, by numbers, a hundred, or a thousand-fold greater? Such a minute fraction of the answer can hardly be called an approximation to it; it does not perceptibly narrow the field of inquiry.

I go a step further in the comparison of these two methods. In the written process we not only obtain at first a very minute fraction of the answer, but even that little we do not know what to do with, until we have obtained the higher numbers; for, by a natural law of the mind, we arrange the lower orders of numbers under the higher, as fractional parts of those larger units. The number 15 the mind regards as 10 and half of 10, 125 as 100 and a quarter of a 100. Whatever be the series we take the highest order as the standard, under which the lower orders take rank successively, each one as a certain fractional part of the order next above it. You will not understand me as supposing that this is the way in which we attain the idea of numbers, (that certainly is done by going from the lower to the higher) but it is the way

in which, after we have become familiar with the law of numerical progression, we apprehend numbers for the purposes of calculation.

If then this be the mental law under which we apprehend numbers, it certainly dictates to us, in our calculations, to take the highest order first, not only because that, we shall at the first step, make a large approximation to the answer, but to aid our clearness of conception. We then have a standard, which nothing that comes after will transcend, under which each lower order, as it comes to view, will take its rank and receive its measure. No review, no re-adjustment is here needed; no second glance to see how the whole will look together. Each particular in the series takes its permanent relative place as soon as found, and there it stands. Compare with this the method of written arithmetic.

The process furnishes, first, the units of the answer. This is no standard with which to compare the following numbers, but must itself take its relative value from a standard that is yet to be found. And so through the higher orders, each one as it is found, is held in suspense, till its relative value shall be assigned it by the number next above; until the highest order, the ultimate standard of the whole is found. Then the calculator may turn round, so to speak, and look down through the numbers he has been leaving behind him, and for the first time see them, each in its final place, in the general conception of the series. The successive particulars have all been accurately wrought out, but they have been waiting for the last

one to strike the key-note; to furnish the nucleus upon which they shall all cluster and take their final form.

Another characteristic of Intellectual Arithmetic of much importance is, that, throughout all its processes, it regards numbers in their true magnitude. The mind is held fast to the habit of regarding each number as it is. There is no convenient fiction here, treating tens, hundreds and thousands for the time, each, as if they were units; but the mind grasps each number at the first, in its true magnitude, and is never for once decoyed into a forgetfulness of what that magnitude is. In written arithmetic, however, if the pupil is called on to divide 3225 by 15, he begins by saying 15 is contained in 32, twice, and so he goes on, treating the numbers of the dividend as if they were all of the same order as those of the divisor. In addition, in subtraction, in multiplication, the case is the same. A rule is followed, so contrived as to secure an accurate result, while it admits, for convenience, the fiction of regarding all the numbers as units. You will misapprehend entirely my aim, if you suppose it any answer to what I here advance, to say that the result is as unfailingly correct in the written as in the purely mental process. I am not speaking now with a view to the accuracy of the final result, but with reference to a method which shall be intelligible at every step; which shall not tempt the pupil away for a moment, from a clear apprehension of what he is doing.

Nor is it enough to say, that the arithmetics con-

tain all the necessary explanation; that they give fully the rationale of every operation, so that the pupil is without excuse, if he fall into incorrect habits of thought. Granting all that is claimed in behalf of the arithmetics, the difficulty does not lie there. Against the clearest explanations coming only occasionally before his mind, there is operating the whole practice of the pupil's daily work, tending incessantly to thwart the attainment of habitually clear conceptions, and to cultivate instead of them a mere mechanical dexterity.

There is needed here, as in every study something more than the clearest explanations. There must be a course of training and practice in numbers, which shall be the very embodiment of clear conceptions. The pupil's whole work should be laid before him in such a form that he cannot do it in the absence of clear conceptions. And this course should be begun before the mind is occupied at all with the technicalities of written arithmetic; and, through his whole course of study, the natural should precede the arbitrary method. Even should this course require some delay in the commencement of written arithmetic, it will be a delay wisely insisted on, like the slow beginning of a hard race. Let the mental habits be rightly formed by a thorough course in Intellectual arithmetic, and then when the pupil comes to written Arithmetic, he will come to it, if I may so speak, with a pre-established harmony in his thoughts about numbers, which no amount of toil in ciphering in after years will disturb.

I will offer you one or two thoughts further of a more specific kind.

The thorough pursuit of Intellectual Arithmetic will greatly aid the teacher in his work in the school-room. I do not mean that it will aid him, simply as every thing that enlarges and strengthens his pupils' minds—that stimulates and rewards their efforts—will aid him; but there are circumstances attending the teacher's work in this branch of instruction, that present some peculiar obstacles to its satisfactory execution. There are two circumstances, in the prevailing arrangements of this study, which operate to defeat the teacher's aim in securing a thorough study of the explanations and demonstrations of written arithmetic. The first is that the demonstrations are in close connexion with the work of ciphering. The two lie side by side on the page. The boy does not fail to have his slate and pencil by him; and if the demonstration he was directed to study does not look clear, he can at least cipher, or, failing to make progress here, can have the comfort of seeming to cipher. The pencil and slate, here, serve the purpose of a successful decoy, alluring him away from patient and resolute thought. So much easier is it to use the fingers than it is to think, that we need not be surprised, if, under such circumstances, but little is done towards a thorough understanding of the demonstrations of arithmetic.

Let the pupil be relieved from all mechanical aids to idleness in this part of his work; let him be so situated that if he does not engage in the appropriate

work of thought, he cannot solace himself with the notion that he is doing any thing at all.

A second disadvantage that the teacher labors under in his attempts to secure a thorough study of the demonstrations is found in the fact that the members of a class are seldom all at work in the same place. In order to bring them together for the study of a particular rule or demonstration, some must be called back from their more advanced work, and others perhaps urged forward to difficulties they are not yet prepared to encounter. This I speak of as the prevailing fact; although there may be instances when the classification is so perfect as to avoid almost entirely the inconvenience here named. Now the very fact of recalling pupils frequently from their more advanced work in written arithmetic, to review what they have once mastered, tends to check their progress and diminish their zeal. The experience of all observant teachers will confirm the truth of this. Scholars do not usually feel much interest in reviewing written arithmetic. As the process is to a considerable degree mechanical, the pleasure is not mainly in the work, but in the result, and when this is once obtained, there is small inducement to review the process.

In mental arithmetic, however, the case is different. The process is throughout one of reasoning, and not one of rule. There is a mental gratification in the operation itself, as there always is in a process of reasoning. The repetition of purely mental calculation does not, therefore, produce weariness, but is a con-

tinued intellectual treat. If the teacher then can so arrange this branch of study that the analytical and reasoning part shall be pursued in connexion with mental operations only, he occupies with his pupils a vantage ground of no inconsiderable importance. He removes his pupils from the influence of one unfavorable condition, which, in written arithmetic, tends to damp their ardor, and prevent that concentration of mind, which is indispensable to the best success.

Another advantage to be gained in the school-room by giving a more prominent place to Intellectual Arithmetic will be found in the increased amount of work done when the pupil comes to be engaged in cipher-ing. I, just now, spoke of the evil of having the student's attention decoyed from the study of a demonstration by the slate and pencil at his side. I now speak of another disadvantage — the correlate of the former, that of having his work in ciphering retarded by lingering over pages of printed matter in his book. It often happens, in consequence of this infelicitous juxtaposition, that neither one thing nor the other is well done. He does not master the demonstration, because he has occupied himself with his pencil; he has done only half the work he ought, on his slate, because he has been listlessly poring over the explanation. It should not be forgotten that, in written arithmetic, rapidity of calculation is one important object to be attained. The pupil in this study should be expected and required to accomplish much. At this stage of his study he should not be struggling with difficulties, and toiling his way through the logic

of his work; but he should have every facility, both from his previous training, and in the present arrangements of his study, for cultivating quickness of calculation. He should have the gratification of feeling each day that he is performing a pretty large amount of work. As there is no logic in his slate and pencil let there be work with his slate and pencil, and a *good deal* of it. This is an important point, whether regard be had to the pupil's present enjoyment, or to the cultivation of habits of industry, or to his preparation for the business of future years. By a judicious separation of mental from written arithmetic, and a thorough previous training in the former, we might reasonably expect that the amount of work done in written arithmetic, in the same time would be very much increased, and the important habit of concentrated attention and despatch formed in the schoolroom.

To these remarks, perhaps too long already, I would only add that a more thorough attention to intellectual arithmetic is in harmony with the higher and better views that prevail in regard to other branches of mathematical study. It was some advance, years ago, in the study of geometry in our colleges, to leave the book behind at recitation, and to read the demonstrations from the diagrams, on the board. It was a still farther inroad upon old usages to change the lettering, so that the most faithful drilling in learning the book by rote would no longer serve the student's turn. He must now, if never before, master the ideas. Nor is the most thorough mastery of the demonstra-

tions as given in the best editions of Euclid, enough to make the student a geometrician. He who would be master of the truths of geometry must be something more than a recipient. He must analyse the demonstrations before him; he must examine each step, to see in what way, and in what degree it contributes to the final proof. He will test each point in the construction to see what element it puts at his command, and how he is going to use it; he will subject the prescribed data to every possible variety, and will observe how, as in the course of this process, one of the elements transcends its limits and disappears, the proposition, at that moment, assumes a new form, either falling back into the form of some truth already proved, or advancing into some new field, and inviting further investigation to ascertain whether the proposition still holds true.

All this is not necessary to enable the engineer, the architect, the surveyor, to perform their common routine of duty; but that this thorough analysis belongs essentially to any worthy pursuit of the study, as a science, is admitted by all who are entitled to express an opinion about it. And we are now having books of geometry, prepared with distinct recognition of these higher and more liberal views of the study.

No good reason can be given why arithmetic should not be cultivated with equally liberal and scientific aims. I might speak of Algebra, as another branch of mathematics, the study of which is now more general and more thorough than it formerly was; and at the same time is taking a more purely mental direc-

tion. A sufficient evidence of this is found in the fact that we are already furnished with an Intellectual Algebra from an experienced teacher; and if I am not misinformed, have the promise of another work on the same subject, from one whose position and acknowledged ability furnish the best evidence that the work will not be ill-timed.

It may perhaps now be asked, admitting the correctness of much that has here been advanced, what is the teacher to do, with his classes around him, and pressed with the details of an established routine of duty, in order to turn to any practical use the thoughts I have here offered? It cannot be denied that, in the case supposed, the teacher will labor under considerable disadvantages, as he would in his attempts to awaken an interest in any study that had not its appropriate time and place allotted to it. If Intellectual Arithmetic is to be treated as something more than a matter of curiosity; if it is to be treated as the true foundation of arithmetical study, rather than as an occasional exercise in it, then beyond a doubt the study must have its regular allotment of time and its appropriate aids in the way of books. Without waiting for any such change, however, there are some important things which every teacher may do, to increase the ardor of his pupils, and elevate the tone of this branch of study. The occasion may perhaps hardly justify me in going into any detail; but I will so far trespass on your patience, as to offer a few suggestions on the point last named, before I close.

1. The teacher should connect with a review of the multiplication table, the multiplication of tens,

and of hundreds, by the same multipliers. Thus: $6\times7=42$, then $6\times70=420$, and $6\times700=4{,}200$, &c. Let the whole multiplication table be reviewed in this way. This will at once awaken a new interest in their study, and greatly increase their power of calculation.

2. Questions in Addition, Subtraction and Multiplication, in somewhat large numbers, may be frequently given to the pupils to be solved without the use of figures. In treating questions in Division in this way, the numbers of the dividend and quotient should always be named in their true character.

3. The teacher may encourage the invention of different methods of solving the same question; and by giving preference to the shortest method, and to the mental over the written mode, he can do much to stimulate the invention of his pupils, and excite them to new ardor in their work.

4. Occasional reviews, with reference solely to the logic or reasoning of the process. In these let the pupils be encouraged to bring forward every method they can devise in which the answer can be obtained.

5. In giving out a new lesson, let the teacher spend a few moments on one or two questions, calling on the class to furnish without delay some proximate answer. Let these answers, as given by each one be written down on the board: then let the teacher remark on the way of finding the proximate answer; and when the lesson shall come up for recitation, let the answers found by calculation, be compared with the estimates given before. This method

is suggested on the supposition that the answers are not contained in the book; as, in ordinary cases, they should not be.

6. A review may be made very interesting and profitable by changing one of the numbers in each question, increasing or diminishing it by one or some other number. If the answer is given in the book, let the teacher change one of the conditions of the question, and then require the class to say what change will consequently be found in the answer. Let these estimates be written down, and then let them be tasked when the class comes up for recitation.

These are some of the ways in which, without the aid of a text book in higher Intellectual Arithmetic, much may be done to relieve pupils from their bondage to written figures, and place them on independent ground, which shall make their calculations resemble more the transactions of business in real life.

In proportion as the system shall prevail, which shall give its due prominence to the purely intellectual processes in arithmetic, will the studies of childhood and youth in this branch become the true foundation for the practice of mature years. The schoolroom will be linked more closely to the labors and studies of the stirring world around it; and its lessons and recitations will become, in a higher degree than they now are, the initiatory to the counting-room, the higher mathematics,— to every occasion, in short, which shall call for the exhibition of knowledge, or the exercise of power in numbers.

LECTURE VI.

ON

COUNTY TEACHERS' INSTITUTES.

BY SALEM TOWN.

THE subject assigned me for discussion, deserves an able investigation. The interests involved, and the benefits contemplated in carrying forward Teachers' Institutes to a successful issue, comprise the elements of an education more comprehensive and thorough, a wider and more general diffusion of knowledge. The means employed, are not confined to a stereotype routine of antiquated modes, nor the *professed* attainment of just such an amount of learning, by having committed to memory certain prescribed rules, but look forward to regular, annual advancements, and higher perfection in all those branches that characterize a well educated people.

Such are the prominent objects contemplated by Teachers' Institutes: and if those agencies now employed are judiciously directed, ultimate success is believed to be attainable.

With such improvements as experience shall from time to time suggest, I entertain no doubt these Institutes, so far at least as Common Schools are concerned, are destined to form a new era in educational matters. What has already been accomplished in the past is reliable evidence of what may be expected in the future.

Perhaps a brief statement of the origin of these voluntary associations would not be altogether out of place, prefatory to a more detailed account of their subsequent progress.

The suggestion was first made at a convention of Teachers in Tompkins County, in New York, and the question was, on the practicability of getting out any considerable number of them, to spend a few days together, in reviewing their studies, and devising ways and means by which the several schools in their own county could be improved. After much deliberation, some few individuals pledged their attendance at such a meeting, in case the call should be made. In April following, 1843, a circular was issued, and although the county is small, when the day arrived, just *one hundred* Teachers of Common Schools presented themselves prepared to engage in such exercises, and submit to such discipline, as should be required by a Board of Instruction provided for the occasion.

This, in all probability was the first *self-created* Teachers' Institute ever organized in this country, or elsewhere, for the specific exercises in which the members were to be engaged. Here, probably for the first time, was *seen*, what no man had before witnessed, *one hundred* practical Teachers, voluntarily convened from one county, in one place, not only for mutual improvement in the art of teaching, but with special reference to combined effort in behalf of all their schools, collectively and individually.

The sight was animating, and the occasion full of interest. It was an experiment. High expectations were entertained on the part of the members, and the most intense solicitude by the Board of Instruction. The results, if successful, were prospectively to reach, and improve the qualifications of something like seventeen thousand Teachers of our own State, and through them, impart higher degrees of moral and intellectual culture to the seven hundred thousand pupils, annually under their training.

These were considerations sufficient to awaken the deepest interest in all, and direct every mind in search of such expedients, and the adoption of such measures, as seemed best calculated to have the most direct bearing on all practical matters, involving the proper development of the intellectual powers and rightly forming the moral character. After mature deliberation, the same general course of exercises was then introduced which subsequent experience now sanctions and sustains. Such, in brief, was the origin of those voluntary associations in the State of New York, called Teachers' Institutes.

We now proceed to a more detailed account of the manner in which they have hitherto been organized and conducted.

In speaking on these points I shall confine myself to such matters of fact only, as have fallen under my own observation, or those in which I have been personally engaged. Up to the present time I have attended *ten* county Teachers' Institutes, and assisted in giving instruction to eleven hundred and fifteen teachers of Common Schools.

Under the existing laws of our school system, each county in the State has a superintendent, whose official duty is to visit the several schools and in connection with the town superintendents, take a general oversight of educational matters.

This provision furnishes the best facilities for convening the teachers in any one county and sustaining the several Institutes. It is, therefore, now considered the prerogative of these officers to invite the attendance of teachers in their respective counties, appoint the Board of Instruction, and superintend all the exercises. By common consent this has now become the regular course by which the teachers are convened. Teachers' Institutes, however, are by no means dependent on the existence of such a grade of supervising officers as are provided by the laws of the State of New York, although many important facilities are secured through their agency, both as official organs of correspondence and as able teachers; yet the Institute can be established and sustained by common consent, among any community of teachers and

friends of education. This is an important feature in the system. The institution is voluntary and self-created.

The next step is to organize the members, arrange the exercises, and provide such apparatus as the occasion requires. Each member furnishes himself with a slate, pencil, and some approved arithmetic, while the superintendent provides black-boards, globes and maps.

When the regular sessions of the Institutes commence and the members have chosen their respective seats, it is expected that each one will continue to occupy the same, as in a well-regulated school. The usual practice is, to hold two sessions during the day, and one in the evening, and experience has clearly shewn the happy influence of opening the morning session and closing the evening, by singing and prayer.

The exercises of the Institute are always commenced by a review of their studies, which, at first, is confined to such branches as are, or should be taught in every primary school. The review of each branch in all cases commences with its elementary principles, advancing in such order, as to furnish an example of model instruction to the members of the Institute. General questions relating to such rules, and common definitions as usually precede each branch, are answered in concert by the whole class, accompanied by such explanations or demonstration of principles, as the case may require.

In the same manner the analysis of language by

prefixes and suffixes, has uniformly been acquired with entire success. When the Board of Instruction become satisfied that each member of the Institute fully comprehends the elementary principles of the several branches, and can, under all circumstances, instruct and explain them understandingly, it has been found advisable, to divide the Institute into classes, especially in Arithmetic, Reading, Parsing, and some portion of Geography. No class ought to exceed thirty in number. The several classes, when called, repair to different rooms, accompanied with an instructor, and if the exercise, for example, is to be in arithmetic, portions of the class, by turns, stand at the black-boards, and the remainder use the slate. During the exercise, every member is, for a time employed on the same question, every slate examined, and every part of the process, requiring it, is demonstrated on the black-board for the benefit of all. When the modus operandi is clearly understood, and satisfactory reasons can be assigned by the members for each step in the work, as well as for the correctness of the result, the exercises become somewhat miscellaneous, embracing the practical application of whatever appropriately falls under that specific rule. Each separate head comprised under arithmetic, is reviewed much in the same manner. The principles of cancellation are also applied in all arithmetical operations. These, I do not hesitate to say, are the most valuable improvements made in this science during the last fifty years.

The most profitable way to exercise a large Insti-

tute in parsing, seems to be the following. Give out a suitable lesson of one page or more, and direct the members to divide at pleasure into groups of four or five persons, with a monitor of their own choice. Under this monitor each group parses the entire lesson, agreeing or disagreeing as to the disposition of the several words. When all have done, each monitor, in presence of the whole Institute, presents every matter of difference, doubt or difficulty to the Board of Instruction, who assign reasons for their opinion, and decide the case. In this way every possible difficulty, is by some one discovered, and a most perfect and profitable synoptical analysis of that particular lesson, and the general philosophy of grammar, are, by such discussion, spread out before the whole Institute.

Instruction on the use of the globes, requires classes sufficiently small, to give to each individual an opportunity for close personal inspection. But the geography of the world, or any particular continent or country, may be reviewed in concert, except occasional questions requiring a descriptive answer.

In Reading, it is customary to make a division into classes as in arithmetic. The teacher himself then gives them the best specimen of his own, or of such members of the class as may excel in that art. Each one reads more or less, and any member is at liberty to criticise. Defects in articulation, emphasis, tones, inflections of voice, and significant expression, are carefully pointed out, with their proper correctives. Little more, however, can be done during the session of

an Institute, in this department, than to accompany good specimens of reading, with such instructions, as will enable the members afterwards to improve themselves.

Mental Arithmetic is uniformly considered an indispensable exercise, and cannot be too highly recommended to the members of the Institute, for universal adoption in their schools. The discipline of the mind connected with this exercise, is invaluable.

Some attention has been given to the Mensuration of superficies and solids, so far at least, as such knowledge is of special practical utility in the common business transactions of life.

Vocal Music, also, has never been neglected, though hitherto, commonly taken up practically, rather than scientifically, and introduced for the time being, as a pleasant relaxation from more intense application in some of the scientific branches. Teachers are advised to make it a daily exercise, at suitable times, in all their schools.

Perhaps it will be unnecessary further to particularize, but simply add, under this head, that it has been the practice, invariably, to exercise the members of the Institute in all the above-named branches, with such others, as are usually taught in primary schools, until they become entirely familiar with the whole routine.

This, has commonly consumed all the time of one meeting of the Institute, and, in some instances, a portion of the second. When that point, however, is attained by any considerable number of the members,

such are entered on the higher branches, in their regular order, and when Institutes have been convened for the second time only, honorable proficiency has been made in those branches. But one county has, as yet, held over *three* meetings, still such have been the advancements, as to justify the belief, that subsequent meetings, especially in the case of those who uniformly attend, will eventually rank many of our Common School teachers high in literary attainments.

Enough has now been said to give a general view of the *amount* of knowledge teachers have an opportunity of acquiring at an Institute, but there are many incidental matters connected with the course, which go far in securing ultimate success.

The physical man must not be held, at any one time, to absolute weariness, nor the intellectual, till the energies relax. Hence, experience has shown it a matter of great importance, that the several exercises of each half day, should comprise successive portions of at least three different branches, on neither of which ought the class to be held over forty minutes at the same time. Each recitation should be followed by a recess of five or eight minutes. Such an arrangement is found to keep up a more intense interest, enliven and animate the spirits of the class, and prevent any thing like dulness, languor or indifference.

The county superintendent, by virtue of his office, holds the right of governing the Institute and directing its operations. Those who are selected to impart instruction should, in all cases be men of large experi-

ence; those who are, or have been, successful practical teachers.

It is by the judicious choice of a competent Board of Instruction, that the *main* benefits of the Institute are secured. It is mainly through their activity, vigilance and efficiency, in conducting all the exercises with spirit and animation, that a proper interest is awakened and kept up among the members, and those vigorous efforts called forth, which enable them to master every subject brought under consideration.

It is incumbent, also, on this Board, to intersperse the exercises of each day, during the entire session, with brief, pertinent and practical remarks on educational topics in general, and especially on the best manner of organizing and governing a school, and securing regular and punctual attendance on the part of the pupils; the most successful modes adopted in teaching the various branches; of keeping up a proper interest in school; inculcating virtuous principles; forming habits of neatness, order and industry; cultivating a correct taste and fondness for reading, and inspiring them with honorable principles of action, a manly deportment, and sound maxims of moral virtue.

I have spoken of three sessions during each day. Two of these are devoted exclusively to the various branches of study brought under review, and the third, or evening session, is assigned to miscellaneous matters, such as discussions on the comparative merits of different systems, or modes, of teaching the alphabet, commencing to read, offering premiums, going above in spelling, gaining the affections and securing

the confidence of children, the infliction of corporal punishments, and whatever appertains to the internal policy of the school-room.

The more experienced teachers, also, give a free narration of the manner in which they have managed their several schools, and taught the different branches, with the results of such course. Matters of perplexing difficulty which have actually occurred between teachers and parents, or pupils, are deliberately considered, and various expedients recommended in cases of the like or similar occurrence.

Lectures from distinguished individuals, previously invited, occupy a portion of the evening sessions. Valuable hints are thrown out on the best modes of developing the thinking powers, and cultivating the reasoning faculties; — in short, how to lay the foundation for a well-balanced mind in the future *man*, by imparting useful knowledge to the understanding of the *child*, never to be forgotten, and implanting sound moral principles in the minds of youth.

Such is a brief outline of *Teachers' Institutes*, with a concise statement of those studies, objects and practical matters, to which the attention of the members has hitherto been directed; all of which have come under my own personal observation.

Teachers' Institutes are voluntary associations, springing from, and sustained by, the very spirit of our free institutions; well calculated to contribute largely to the general diffusion of that knowledge, and the dissemination of those virtuous principles by which

alone the stability of our Republic can be maintained, and her blessings perpetuated.

Among the beneficial results which have already been realized, or which there are good reasons to believe will be, are the following :— The association of teachers in annual sessions of two weeks each, enlarges the circle of their acquaintance, and leads to such intercourse as can be made mutually advantageous to themselves, and highly beneficial to the cause of education generally. The Institute, also, furnishes facilities for improving their qualifications under such circumstances as to reach all ages and grades of teachers, and thereby to benefit thousands who could be reached in no other way. The assembling in such large numbers (for the average is about one hundred and fifty) has been found, hitherto, to excite public attention more than any other expedient, and thereby to awaken a more general interest in behalf of primary schools. Already are these conventions leading the public mind to a more settled conviction of the absolute necessity of educating all the children of the country not only intellectually but morally, if not as a matter of duty at least as a measure of sound national policy. Greater uniformity in the management of schools, the most successful methods of instructing are devised and promulgated, and teachers, in looking over the vast field of their labors, are led to feel more sensibly, the amazing weight of those responsibilities connected with their employment, and the imperious necessity of strict fidelity and untiring diligence in a more prompt and efficient discharge of duties. By

these meetings pedagogical jealousies are also removed, a community of interest is formed, and teachers learn to sympathise with each other. The experience of the older and more successful in the profession, is hereby thrown into common stock for the mutual benefit of all. Mind is brought in contact with mind, in the several exercises of the Institute, by which the intellectual energies are aroused to more vigorous action, and the members return to their several charges more thoroughly imbued with the spirit of their profession.

All these considerations, with many others that might be mentioned, have in various ways been productive of results highly beneficial. From the very first adoption of this mode of instruction, with a view to enlarge the teacher's sphere of usefulness, and extend the benefits of elementary knowledge, I have anxiously watched the development of such results as could be fairly traced to this effort, and endeavored to arrive at such conclusion in relation to the future, as might reasonably be expected, should similar organizations be established throughout the country. My expectations as to the past, have thus far, in the main, been realized; and it is now my deliberate judgment, that no expedient has heretofore been devised, which so directly meets the exigencies of the case, is so well calculated for the immediate and simultaneous improvement of teachers generally, or for elevating the standard and extending the benefits of Common School instruction so speedily and so universally, as the establishment of Teachers' Institutes.

There is no mistake in the matter, there can be none.

Mr. President : — Thus far I have given you a plain unvarnished statement of facts, connected with some few reasons which induce me to speak with so much confidence of success, and I can add, without fear of contradiction, that I am sustained in these views, by the concurrent opinion of the most competent judges of educational matters in the State of New York. Your attention, Sir, with that of those gentlemen who compose the American Institute, has for two years been directed to a more general diffusion of knowledge.

The object, Sir, is worthy of your most profound deliberations, and one in behalf of which our country's prospective welfare demands prompt and efficient action. Our duties must, in some respects, be measured by our national position, in view of that influence she seems destined to exert on the civil and moral condition of the world.

Whatever the instrumentalities are, for promoting the general diffusion of knowledge, the work must commence in the general establishment of primary schools, and the immediate agent of carrying it forward must be teachers of the various grades. Who then can measure the responsibilities of the professional teacher, or weigh the influence of his daily instructions? He is constantly moving in the vast empire mind, and wielding a mighty influence over the destiny of the entire nation. To him are committed those interests which outweigh all others in

the scale of our being, the development of intellect, and to a great extent, the formation of moral character.

Did we fully comprehend the philosophy of *mind*, we should doubtless perceive, that every unfolding idea of intellect, and every trait of character, was the result of some specific cause, ordinarily under human agency.

In all probability there is not a mental perception, from infancy to age, that is utterly lost in the character of the mind. Many incidents, even, of mere childhood, it is believed, oftentimes lay the foundation, intellectually, for a wise man or a fool, and morally, for an honest man or a villain.

We are hardly aware of the strength or durability of that silent influence which a look, an action, a careless or inadvertent expression may exert on a child, or an idle bystander even. Professional teachers, as a class of men, should therefore, above all others, be men of great prudence, as well as high literary qualifications. They should be deeply imbued with sound moral principles; understand human nature with every accessible avenue to the heart, and feel most sensibly the fearful responsibilities of their trust. They should receive the support and joint coöperation of civil and ecclesiastical departments, the sympathies and the counsels of moral and literary associations, and be firmly sustained by the entire community.

We have hardly begun to consider the agencies of the Common School teacher in laying those founda-

tions on which the civil and religious institutions of our country stand. Common Schools are the just measure of national intelligence, give tone to national character, and should be regarded as the palladium of our country's independence.

Intelligence, accompanied by virtuous principles of action in the great mass of the people, constitutes the only rock on which the temple of freedom can stand, and the elective franchise of such citizens, is the only arm that can protect it.

There appears to be a manifest design in all the provisions and arrangements of Providence, to establish this American nation on the broad principle of human rights; to enlarge her domain, multiply her population, and through her, present to the world the freest government founded on those rights, the wisest laws, the soundest policy, and the purest morality based on Bible truth and obvious Christian duty. The natural resources, and the fertility of the soil on which the amount of population depends, are next to exhaustless. Whatever can render the people of one country independent of another, or contribute to their security and happiness, their prosperity and power, are ours.

Leisure and facilities are afforded for cultivating the useful, and perfecting the fine arts; for exploring the fields of science and literature; for enjoying the refinements of social intercourse and adding the experience of political wisdom to the civil jurisprudence of the country.

Under the supervision of a wise administration of

our government, the people of this country may, and probably will make greater advancements in the arts and sciences, and exert a more salutary and wide spread influence through the medium of benevolent enterprise than any one nation on the globe. She is even now sending forth to some extent the lights of science and civilization to the benighted of every clime. Are there not then some good reasons at least, to believe the moral history of large portions of the world is involved in the future history of our own country?

According to a fair computation, the increase of our population sixty years hence, will number something like seventy-five millions of living inhabitants, filling every valley and covering every hill-top in the land. During that period, the condition of this nation will, in all probability, be settled, both as to her own moral and literary character, and the nature and extent of those influences she will thereafter exert and transmit. The decision of this momentous question will, in my view, mainly depend on the action of the present and next succeeding generations. And the *men* of the next generation will be just what the educators of our country's hopes make the children of the present. The great field then of our educational movements even at the present moment, lies between ocean and ocean, and unless efforts are promptly made, efficient and commensurate with the increase of population, ignorance and vice will, in many portions of the far west, at least, gain an alarming as-

cendency, and entail ignominy and crime on succeeding generations.

That the prevention of evils is far less difficult than their removal, is a maxim to be remembered.

The great question then is, in what way, and by what means, the greatest amount of knowledge, useful, practical and indispensable, for securing the common welfare of the nation can, under the most favorable circumstances, be imparted to the greatest number of her citizens? This, I conceive, to be the main point on which the concentrated wisdom of this American Association is made to bear. And I need not say, it is one which covers every interest of vitality involved in the social and civil compact. As one of those means in that series of instrumentalities, in aid of this object, I have presented the recent organization of Teachers' Institutes, as they now exist in the State of New York, for your consideration. Of the probable benefits to be derived from the course of instruction I have pointed out, you are competent judges. As an experiment, the main question is, in my view, satisfactorily settled. That experience will yet suggest improvements is highly probable. All, however, that remains to secure ultimate success is, in my judgment, for the friends of education to step forward and get up similar Institutions in every section of our country. Put these under the supervision of judicious, experienced, and competent Boards of Instruction, and who can doubt the result? Teachers have been found promptly to answer to the call, and when assembled

to engage in the exercises with a spirit and energy I have never witnessed under any other circumstances. They go forth and engage in their several schools, imbued with the same spirit, not only better qualified to instruct, but more deeply impressed with the necessity of unremitting efforts in behalf of their own pupils.

LECTURE VII.

ON THE

BEST METHOD

OF

TEACHING GEOGRAPHY.

By WILLIAM B. FOWLE.

In rising to address you at this time, I feel the embarrassment which always attends any attempt to address a mixed audience upon the details of instruction in any branch of science, for, if the subject is only treated in general terms, there are always some to accuse it of having no practical bearing; and, if it is treated in detail, a larger number, perhaps, will find it dull and uninteresting. I would gladly have avoided the task altogether, but your committee were so polite as to invite me to lecture because I had some score years of experience as a teacher of the branch which they proposed for my subject, and I had done

so little for the Institute that I did not feel at liberty to decline, however serious were my misgivings as to the result.

The subject proposed by your committee was, "The Best Method of Teaching Geography," by which they probably meant *my* method, taking it for granted that no honest teacher will for a moment use any method but that which he considers the best. But a serious difficulty met me at the outset, for, what did the committee understand by the term Geography? I knew that this term, etymologically considered, meant a description of the earth in all its appearances, permanent and changeable, but the committee must have used the word in a more restricted sense, and how was I to get at it? I applied first to that Leviathan of Lexicographers, Dr. Johnson, and he said, "Geography is *the* knowledge of the earth." *The*, we are told by an admired grammarian, is the *definite* article, although, as in this case, all that is *in*definite in the definition seems to proceed from the use of *the*. But allowing that the doctor meant "*A* knowledge of the earth," the question naturally arose, *What* knowledge of it? its origin? its structure? its superficial features? its artificial divisions? its changes? or, what part of the various knowledge that has been collected from age to age? To ascertain the kind or degree of this knowledge, I thought the definition of particular departments of it would aid me, and turning to the word Geology, I found that to mean, "The Doctrine of the Earth." I then, of course, turned to the word *doctrine*, and found

that to mean, "The principles or positions of any sect or master." Not perceiving that I had made any approximation to the desired point, but more than ever convinced of the absurdity of requiring children to study lessons from the dictionary, I turned to the word Topography, and found this to be "A description of particular places," by which, I suppose, the doctor meant, "A particular description of places;" for, if a description of particular places is topography, then a description of *all* places is not topography.

I resorted then to the definitions given by our best Geographers, but, instead of repeating these, which, by the way, are often greatly at variance with the contents of their text-books, I prefer to give a paragraph from the Library of Useful Knowledge, which not only describes what I consider to be the great mistake of all makers of geographical text-books, but which proposes nearly the plan that I have pursued from the beginning, and which I shall endeavor to recommend in this lecture. "Universal Geography," says the author, whoever he may be, "is the science that conveys to us a knowledge of the earth, both as a distinct and independent body in the universe, and as connected with a system of heavenly bodies. The figure, structure and dimensions of the earth; the properties and mutual relations of its parts; the features of its surface; its productions and inhabitants, and the laws which govern or partially affect it as a heavenly body, are all included in the comprehensive term of Universal Geography. This definition," he goes on to say, "or rather, this description of the

objects of geography, serves as the basis of M. Malte Brun's elaborate work, but it manifestly embraces a great variety of subjects commonly called, and treated of under distinct heads of, natural philosophy. To avoid, therefore, the confusion of ideas, which the extensiveness of this definition may give rise to, it will be convenient to reduce its terms within the limits usually assigned to geography. And we are the rather induced to do this, because the interests of science have been promoted in no slight degree, by a judicious and well defined arrangement of its parts, which at once excludes a great number of fanciful resemblances, and, like a division of labor in mechanical employments, renders every branch more easy to be acquired, and more likely to be extended and improved." "In its proper and more confined sense," he concludes, "Geography comprises a knowledge of the figure and dimensions of the earth, and the situation of places upon it; of the natural and political features and divisions of its surface; *and of its various productions and inhabitants.*" This latter definition, with the exception of the last clause, may be assumed by the lecturer, but "the description of the various productions of the earth" approaches so near to Botany and Geology, and "the description of its inhabitants" approaches so nearly to Natural and perhaps Civil History, that it had better be referred to the books devoted to those important but distinct sciences.

If we examine the books that are most used in the schools of the United States for teaching geography, we soon come to the conclusion, that, if all they con-

tain is geography, then this is the most comprehensive name ever given to a science, and we shall be led, perhaps, to suspect that Dr. Johnson was fully aware of what he said, when he defined geography to be "THE knowledge of the earth," *par excellence.* I know not that I shall do injustice to many of these text books, if I say that every thing is found in them but what ought to be there; for, really, when the proper materials are there, they are so buried under other matters, that they are with difficulty found. In most of them, besides topography, and a smattering of geology and astronomy, we find history, botany, zoölogy, meteorology, and all the other *ologies* appertaining to natural history, with theology, chronology, genealogy, manners and customs, the statistics of war, education, sectarianism, internal improvement, law, physic, agriculture, commerce, manufactures, philanthropy, and most other human concerns. Now, all these subjects are very important, and every well educated person should know more, much more, of them, than is contained in these geographical text books, but it is questionable whether an adult mind would be much improved by reading or learning by rote, such knowledge, however important, given, as it is, without system, without due proportion, without judgment. But if such desultory remarks are of doubtful utility to adults, what must they be to children, who generally come to the study of geography long before they have studied any of the subjects just enumerated. It was the custom, when the spelling-book was almost the only secular book used in our schools,

to crowd a smattering of almost every thing else into it, and I have one that contains, besides its vocabulary of words, the elements of reading, grammar, arithmetic, geography, astronomy, rhetoric, theology, penmanship, and a variety of other matters, more necessary then, when the Bible and spelling-book were the school-boy's library, than such a medley is in our geographies now, when every division of human science has an appropriate text book, in which it is systematically treated. The good sense of the community has long ago banished such extraneous subjects from the spelling-book, but will it sift the geographies also? Many of those subjects are as much related to spelling as the others are to geography; for, spelling, unless accompanied with writing, reading and grammar, is but half taught, and this fact the people are beginning to perceive.

What I have called the extraneous matter of geographical text books often constitutes about three quarters of them, and, no doubt, it is introduced to fix the geographical facts in the memory by association or some other sympathetic influence. But, if this is a sufficient excuse for introducing such fragments of various knowledge, how important is it that the most striking and apposite illustrations should be selected. But I find no such judgment exercised, so that the *aid* afforded by the associated knowledge only increases the burden. For instance, one popular author, who relies much upon the aid of pictures, when treating of the geography of America, gives us a view of Columbus leaving Palos, in Spain, but how will this help

the child to remember the shape, features, natural or artificial divisions of America? It introduces a historical fact, and may recall Spain to mind, though the site of Palos, the subject of the picture, is no where described. In his larger geography, the same author gives a picture emblematical of the United States, viz.: an Indian astride a flying eagle. Then we have a picture of the Resignation of General Washington, but, as we are not told where it took place, it is not evident what geographical fact it is to impress upon the memory. This incongruity is not confined to him, however, for another amiable and excellent author, whose book is a mass of facts, that render it, in my opinion, unfit to be used by children, while they show his unusually profound acquaintance with the earth and all that appertains to it, gives a Roman Catholic procession in Guatimala, some peasants dancing in France, and many similar pictures not peculiar to the country where they are given, and not likely to operate as aids to the recollection of any geographical fact anywhere. But this will suffice, and I need not produce examples from inferior authors. I am not unacquainted with the power of association in assisting the memory, but I have been accustomed to associate unknown things with those that are familiar, and I cannot be deceived into the belief, that, where there are no common points of resemblance, any thing is gained to the memory by having two facts to remember instead of one.

So with the descriptions of places, customs, &c. &c., which are to be committed to memory; they are rarely

connected with the thing to be remembered with them. For a general rule, those who have studied the text books in common use are ignorant of the location of places and the physical features of the earth, just in inverse proportion to the quantity of words that they have committed to memory. My heart has sunk within me when I have examined children whose memories had been thus taxed at the expense of their health, and of years of precious time far worse than wasted. Who does not know how eager such children are to recite as soon as they have committed a lesson to memory? One would think the recitation was to fix it forever in the mind, whereas it is really only a device to let it escape and make room for its successor, it being a law with these unsubstantial things as with solid bodies, that no two can occupy the same place at the same time.

While I was at school, geography was first introduced as a regular exercise, and, on the whole, the method of instruction was more rational than that which has since prevailed, although its result was very similar. The chief book used was an abridgement of Dr. Morse's Universal Geography, but it was *read* only, and not committed to memory. It was never explained to the pupils, and being quite unintelligible, was, of course, very uninteresting. The only portion that was tolerable, was a description of the animals of this country; and this was a sort of oasis in the desert, which we visited, in the course of our reading, only about once a year. The book contained one or two maps, but we were never required

to examine them, and in most cases they were soon torn out, and thrown away, as the most useless things in the world. To beguile the tedious hours of idleness, which then, as now, constituted the larger part of school time, such of us as retained the maps were accustomed to play hunt for places on them. This was a standing game for years, and to this I am indebted for all the knowledge of geography that I brought away from school, although, whenever I was detected in this forbidden exercise, I was severely punished. I do not recollect any more of that book than I should if I had committed it all to memory, but I recollect how I hated Dr. Morse for making it. Another book, used at the same time, was Bingham's Astronomical and Geographical Catechism, a small book which I committed to memory in a few months, and recited regularly eight or ten times a year, without understanding a word of it. In connection with oral teaching, I prefer books that ask questions, and require the pupil to search the atlas for an answer, without furnishing one ready to his hand, or a key to one in the shape of the first letter. But the little Catechism gave an answer to every question, and a departure from the very words of the book, although the idea was retained, was deemed an error, as well as the height of presumption. There was no association in my mind between any description in these two books, and any spot on the maps, but many of those descriptions .were indelibly associated with certain black-and-blue spots elsewhere.

I have remarked that the extraneous matter of our

geographical text books is of but little value when learned; let me enlarge a little upon this idea. Who does not know that when a new edition of a geography, a *revised* edition, I mean, is printed, the old edition is no longer fit for use? Why is this? The author of the larger geography, used, until lately, in the Boston schools, tells us, in the preface of one of his editions, that it was first published in 1819, and, after two editions, was stereotyped or placed beyond alteration. Soon, he adds, it was necessary to re-write it entirely, and then, after two more editions, it was stereotyped or fixed again. Unfortunately the world would not stay fixed to accommodate the types, and, in a subsequent page, we are told that the book "may be expected to remain as it is, until a considerable change shall become desirable", that is, until an unusually large portion of it becomes incorrect! The author of a later and more popular geography, but by no means a better one, informs us in his preface, that "The introduction of a great variety of books into schools in the same department of knowledge, by rendering the information uncertain, the expense greater, and the progress less rapid, is an evil of which many have complained." But how is this evil to be remedied? How is the *greater expense* of using *various* books, that may correct each other, instead of "rendering the information uncertain", to be remedied? "To obviate this," continues the preface, "the author has resolved to give his work a periodical revision, which will be repeated and continued regularly once in five years thereafter"; which seems to mean that, instead of buying

several books of different authors, the pupils will have only to purchase several different editions of his book. But the expense is of no importance compared with the fact, that, after a child has studied a book five years, the new edition will show him that, if what he has learned is retained, it is incorrect, and, of course, useless to him.

Now, whence arises this absurd, nay, cruel necessity for change? Not because the world has changed; it is essentially the same it was when Noah went forth from the ark four thousand years ago;— not even, because the divisions made by man have essentially changed, for, every where, except perhaps in our own country, these divisions are what they were one generation at least ago. Is it not evident that the new book must be made to rectify matters that should never have found a place in school books? What is the object of teaching geography in our schools? Is it not the same as that of teaching arithmetic, reading, spelling, and the other common branches — to give the child something that will be of service to him when he becomes a man? And is there not enough that is permanent on the earth, to occupy the few months, or even years, that are devoted to the study of geography? Have the oceans ceased to heave since the Almighty gathered them to their place? Have the countless rivers ceased to run since they were poured out from the hollow of the Almighty hand? The everlasting hills, have they moved again since they fled from the wrath of Him who uplifted them? No, no, no, nor will they till the dooming angel

shall plant his right foot upon the flood, and his left foot upon the earth, and swear by Him that liveth forever and ever, that time shall be no longer.

But let it not be supposed that I would reject all such aids as would interest the child in the permanent, and, as I think, proper subjects of geographical instruction. The competent teacher may often suggest some circumstance to engage the pupil, and give him an interest in the thing to be remembered. If you wished to impress the fact that there is such a country as Italy, and its peculiar form, upon the mind of a child, you might tell him about Rome as it was and as it is; when its material wall included but one hill, and was so low that it was overleaped in derision, or when its spiritual wall inclosed all Christendom, and aspired to include Heaven; when it subdued the world by knowledge, or enslaved it by ignorance; when the dark oracles of the Sibyl, or the bright oracles of God were shut up from the people; you might tell the child all this, but what would he know of the *geography* of Italy? Not one tenth as much as he would if you showed him the map, called his attention to its boot-like form, and required him to draw a dozen or more outlines of it. The text book used in the Boston schools was as copious as any, and the instruction conformable to it, probably, as thorough, and yet, in the late remarkable Report of the Examining Committee of those schools, we are told, "That each scholar (of five hundred selected from the first division of the highest class of each school) was required to sketch on paper an out-

line of Italy, and many attempted it, but, of the whole number, only *seventeen* made a drawing, which could have been recognised as a representation of Italy, by one who did not know what the scholar was trying to do."

Again, if you wished to impress the geographical outline of the Spanish peninsula upon the pupil's mind, would you tell him of Ferdinand and Isabella; of the repulse of the Saracen invaders, and the invasion of Mexico; of the enfranchisement of Spain and the establishment of the Inquisition; of the slaughter of infidel Moors, and the more modern butchery of Christian hosts? You might do all this without giving the pupil any idea of the *geography* of Spain. But, if you should show the pupil a Spanish dollar, and call his attention to the Shield, whose form is exactly that of the Peninsula; to the Castle and the Lion, Castile and Leon, whose union freed Spain from the Saracens; to the two Pillars, emblems of the Pillars of Hercules, Gibraltar and Ceuta; to the motto that entwines them, "*Ne plus ultra*," "there is nothing beyond," and then explain to him this limit of ancient geography, that Spain herself overpassed; my word for it, you would not only give him some definite ideas of the geography of Spain, but you would give an interest, that never existed before, to Spanish dollars.

By such means, the well furnished teacher may enliven the details of study, but I have always found that, where the book is what it ought to be, and the black-board and pencil are constantly used, there is

but little need of other excitement, and the name of a country becomes associated with every geographical peculiarity of it. I will not go into all the details of the method by which I contrived to impress all the important features of the globe upon the minds of my pupils, for this would be uninteresting, perhaps, even to teachers, and he who wishes to read them, may find them in the books which my peculiar method of teaching compelled me to publish; I shall, therefore, only say briefly, that, when called on to teach a child geography, my custom is first to show the child a map or plan of his own town; then to point out its connection with other towns; show how these towns form counties, and how the counties form the state. Then I should take the map of the United States, and point out Massachusetts and the neighboring states, showing how they combine to form the Union. Next, I should take the map of North America, and pointing out the United States and its territory, I should constantly keep the eye of the pupil upon the decreasing size of Massachusetts. I speak of *maps*, because these are in every school, but the globe is far better, whenever it can be obtained. Then on the globe or a map of the world, I show the connection between North and South America, the wide space of water between the continents, the New World on one side, and the Old World on the other. I show him the whole globe, how we live on it, and how it turns round; then I recall his attention to his native state, and when he has a distinct idea of its place on the globe, I return to his own

town, or to his own state, if I have no suitable map of the town to enable me to make that the point from which our future lessons are to proceed. I then require the pupil to draw as good an outline of his town, county or state, whichever I must begin with, on the slate, black-board or paper, or on all of them. When he can do this decently, I let him fit the contiguous states upon it. If his book has little or nothing in it relating to his own state, he may draw the outline of every state in the Union, separately, several times, without entering into minute details; but, if he has a map of his own state, and his book can serve him as a guide, let him draw a map of good size, and mark first the mountains on it, telling him that these are the most important feature in a country, and generally indicate the high lands from which the rivers rise. Then let him mark the rivers, and be sure to make him understand that they run from the highlands to the sea, *downhill* always. Then proceed to the other geographical divisions of land and water, dotting the important towns, and talking about the face of the country, as if it were outstretched before you.

If something like this familiar survey had been attempted in the schools to which I just now referred, do you think that, when their five hundred elect scholars were asked, "Do the waters of Lake Erie run into Lake Ontario or those of Ontario into Erie?" only two hundred and eighty-seven could have answered correctly, and "if we take into consideration," as the committee say in their report, "what is

unquestionably true, that many of those who did not know, answered by guess, and that they were just as likely to guess right as wrong," would it have been a fact, as the committee assert it was, that "much the largest portion of our best scholars could not tell which way the waters run, in spite of all the fame of Niagara!" Surely not; and, after this exposure, whatever text book may be used in those schools, you may depend upon it that the pupils will never row their teachers up those Falls again.

Before leaving the native State of the pupil, be sure that a general idea of all its important points is obtained, so that the child can readily tell its parts, as you draw them on the board, or point them out on the outline map. Then let him take a neighboring state, and do the same by that, and so extend his knowledge to the rest, gradually travelling over the world, learning no descriptions by rote, but visiting every place often, and impressing *things*, not words, upon the mind. If the teacher, while pointing at the map, can enliven the lesson by a pleasant anecdote, description or picture, so much the better, and any teacher may do this, if he faithfully prepares himself for the lesson; but woe unto the story if it needs to be formally committed to memory!

The first time I go over the world with a pupil, I do not hurry, and I am not too particular. The next time I require more. At first, the states and countries of the world are drawn separately, and of a small size; next, the smaller states are grouped, and so, at each course over the world, the space included in the

maps is extended. I required no maps to be drawn for exhibition, but, once a year, I selected a fair specimen of the work of each pupil, and bound the whole neatly as a sort of landmark from which to measure the progress of the pupils. The volumes that I have thus preserved are among the most valuable memorials of my pupils, and of my labors.

After a basis thus laid, the children are ready to enjoy history, voyages and travels, and all books that describe the countries with whose geography they are acquainted. It was always my custom to select a good newspaper and read it, or suitable parts of it, to my more advanced classes. If the name of a place was mentioned, we determined its direction and distance from home; and if the name was new to the class, they noted it upon paper, and at the next lesson were expected to tell all they had gathered relating to it. To meet such exigencies the school was always furnished with the best Atlases and Gazetteers,* but these often failed us, for the newspapers are always in advance of books, and we were often obliged to go into the world, and get instruction from men, who know more of the actual world than they do of books. All arrivals and departures of vessels, most advertisements, and, indeed, almost every part of the paper, besides imparting the knowledge of

* Perhaps no more useful assistant has been afforded to teachers than the UNIVERSAL PRONOUNCING GAZETTEER lately prepared by THOMAS BALDWIN of Philadelphia, assisted by many distinguished scholars, foreign as well as native. This is one of the *Books of Reference* that should be in every School Library, and should be placed there by School Committees.

what was actually going on in the world, made the pupil acquainted with its geography, and afforded me countless opportunities of imparting that useful and practical knowledge, which the child will never pick out of his text books, and the want of which makes our mere book-learned pupils as unfit for business, as if what is learned at school is only to be used at school, having nothing to do with the outward world.

In this way, I would teach geography to young children and to all beginners; but, if they are required to learn history also, they should connect it with geography. My plan was always to read the history to the class, requiring them to look at the maps. Each pupil also drew an outline map on paper, and, as fast as places or other objects, such as rivers, mountains, &c., were named, they were marked on the map, and, if there was room, the event and its date were recorded by their side. Maps were prepared, adapted to the different epochs in the history of a country; especially if such divisions of the country as were not natural and permanent were seriously altered. In the history of England, for instance, the first map represented England as it was when first invaded by the Romans. The second represented it as it was when the Romans left it. The next, divided under the Saxon Heptarchy; the next, after its re-union under Alfred; then in the reign of Elizabeth, and then in our own times. Sometimes, in teaching ancient history, we hung a large outline map before the class, and marking the place of each event with both the ancient and modern name, and inserting no

name unknown to history, we formed a sort of historico-geographical map, which the pupils all copied for private use. I need not go farther into these details, the plan, probably, is not so novel now as it was twenty years ago, when I adopted it, and I have said as much as the intelligent and industrious teacher needs, and far more than the indifferent one will use.

If it be asked, as it reasonably may, why not begin at once with history, and let geography come in by the bye? I answer, because history is not geography, and no history will touch upon a hundredth part of what relates to the geography of a country. Books of voyages and travels are better than history in this respect, but, as I have already hinted, a good newspaper is better than all of them. But there is another serious objection to this indirect mode of teaching geography, and it is, that the time usually spent in school forbids this course of instruction. If the meagre compends of history used in our schools, be adopted as a guide, the child will know as little of geography as of history; and if the larger histories are employed, a general acquaintance with geography would require nearly the whole threescore and ten years allotted to mortals, and not merely the few years of a school life. No,— geography is as much a science as geometry, and it can be picked up by reading history no better than geometry can be picked up by reading works on astronomy. The elements must first be systematically learned, and then the cognate sciences may, and should aid and illustrate each other.

In teaching geography to the young, a question of some importance is, *how*, or rather, *where* shall we begin? The prevalent opinion among the best teachers is, that we should begin at *home*. Some go so far as to say, we should begin at the school-room, fix the points of the compass, teach the direction of the roads, the boundaries of the district, the contiguous districts, the boundaries of the town, the situation of every pond, stream, hill, and other important object in it, and then proceed to the next town. This, on the whole, is the true plan, and the natural one, but you may have perceived that, in describing my course, I first gave a general idea of the world that the child might know what and where home was, and this course had been forced upon me by the attempt to teach entirely on the *home* plan. When I marked the cardinal points on the floor of my school-room, the little geographers would ask, "What does north mean, sir? Why is north always there? Do we live on the top or bottom of the world, sir?" &c. &c., questions which may very easily be answered in one lesson, which I have always found the pleasantest lesson the child ever learns. With the exception of this one lesson, then, I would begin as near home as my means of illustration would admit. But, alas, how defective are these means! Suppose that in obedience to the directions in a geography published in this very city,* the teacher should begin at the school-room. He will naturally look into the book for information as to the

* The Lecture was delivered at Hartford, Con.

vicinity, but so far from finding any at the beginning of the book, he finds not one word about Connecticut until he reaches the one hundred and ninety-fourth page, and of three hundred and fifty-two pages, but *one* is devoted to Connecticut, and nearly half of that is a picture of Yale College. Another popular geography containing three hundred and twelve pages, and published also in Hartford, gives your state but *one page and a half.* A third geography, published in New York, and much used, gives Connecticut *three* of its two hundred and eighty-eight pages, including, however, a view of Hartford, and what would be a view of Yale College, if the trees did not conceal it. The geography perhaps most extensively used in this country, and published in Philadelphia, out of three hundred and thirty-six pages, allows Connecticut about *two*, including a picture of a school-house, and a wagon with emigrants going west; but, whether the wagon points out the object of the school, or whether both these objects are peculiar to this state, we are not informed. Finally, the geography until lately used in the schools of Boston, and, I think, published in that city, contains three hundred and thirty pages, and spares *one* to Connecticut, but then, it is a *whole* page, without the drawback of a picture. The number of pages devoted to Massachusetts in each of these books, is hardly greater than is given to Connecticut, and yet our children learn nothing of our state, but the few pages I have named, and can you wonder that they know as little of Massachusetts or Con-

necticut as they do of Tartary or Ethiopia? I hope these details will be excused on account of the important bearing they have upon our schools. Few of our children ever go beyond the limits of our state, and no geographical knowledge can be so important to them as the knowledge of that state with which they are so intimately connected; and yet, for half a century, we have been contented to let them study every thing but this, apparently supposing that a competent knowledge of their own state is born with them, and, being an instinct, needs no cultivation.

Some most important apparatus has been provided of late for the instruction of the young in the elements of geography; I refer to black-boards and outline maps. These seem to be all the teacher would require, if he were what he ought to be; but as he is what he is, some text book must guide him, or he and his pupils will all be lost, if they wander a furlong from home. Black-boards may be made a substitute for outline maps, but they serve better as helpers, and it is far better to use both, and always to have a globe at hand to correct the wrong impressions which children are so apt to receive from maps, however drawn. If not familiar with the globe, they will be constantly inclined to think the surface of the earth plane as a map. Being accustomed to hold the northern part of their maps elevated, they will naturally connect the idea of up with north, and of down with south, and, perhaps, to this we may attribute in a great measure the mistake in regard to the course of Niagara river, to which I have before alluded, for its course is almost

directly north. The presence of the globe is also necessary to prevent the mischief that arises from using maps drawn as they must be on various scales. The map of the world must correct this error, if no globe is at hand, but the map of the world is on a plane, and needs a globe to correct itself. Sometimes, to correct erroneous notions, I have hung maps upside down before the class. The outline map is a safe assistant, in so far as it presents only such points of geography as are always true and unchangeable, and is not apt to be crowded with the less important matters which obscure other maps. The practical teacher may accustom the child to look upon it, as upon the earth's surface; he may point out the general features of the country, the elevations and depressions, and their connection with the source and course of rivers; and a few lessons of this sort, that require no book, would save the poor children and the poor rivers a deal of *up-hill* labor.

I do not know that I need to say any more to expose what I consider to be the defects of the prevalent mode of teaching this interesting science, or to indicate a better method. Bad as the prevalent method is, I suspect that geography is far better taught than many other subjects that have been introduced into our public schools. The text books would be a less important concern, if the teachers were all they ought to be; but we have reason to believe that the character of our teachers has of late been greatly improved, though not, perhaps, in proportion to the additional duties imposed upon them. Before they could be-

come expert in teaching those elementary branches which satisfied our fathers, new branches have been introduced, until we seem to be in danger of having a surplus of colleges, without any good schools. It would, in my opinion, be wiser far to teach a little, well, and to have the instruction such only as will be available in the world. Small as the amount of learning is, that our children acquire at school, a large portion of it is as unfit for use as if it were never intended to be used. Grammar is anything but learning the correct use of language; geography is pantology, as I have shown; the too early introduction of algebra has made almost a negative quantity of common practical arithmetic; those who have mastered book-keeping, seem to understand only the *waste;* proficients in astronomy cannot tell the Little Dog from the Great Bear; profound botanists descant on the structure and repeat the hard names of exotics, without knowing the class, or the name, or the virtues of the plants on which they daily tread; and thousands, who are reported to have mastered a foreign language, cannot pronounce a word of it correctly.

This ought not to be so. Progress is desirable, but not at such an expense. Let me, however, return to my subject. Geography is a science that may, in a great measure, be exhibited to the senses, and it is the duty of the teacher to call in their aid in every possible manner. If the countries cannot be brought under the eye of the pupil, the best maps of them must be; and when, in this way,

a clear idea is communicated to the mind, there is no need of committing words to memory. And, in attempting such illustrations, let not the young teacher be discouraged at the idea that he may not execute a map as readily, or as well as a veteran teacher might do it. Whether he knows *how* to go to work or not, let him rely on the perfecting power of practice. Be not afraid, therefore, to attempt whatever others have done, and let no fear of failure or love of ease induce you to shrink from any attempt at improvement. Above all, do not impose upon your pupils any system of instruction which mocks them with a show of learning, while, by leaving no useful and permanent impressions on the mind, it really inflicts upon them a punishment not unlike that of the guilty Danaïdes, who were condemned to be perpetually filling with water a vessel whose bottom was full of holes.

LECTURE VIII.

ON

VOCAL MUSIC

IN

COMMON SCHOOLS.

By A. N. JOHNSON.

It is hardly possible to explain the best method for *teaching* Vocal Music in common schools, within the compass of a single lecture. As there are books accessable to every one which explain that subject far more minutely and plainly than I could do within the space of an hour, I beg leave to occupy your time with the consideration of some of the reasons why music should be generally cultivated, as well as with a few suggestions upon the manner in which it should be taught in schools.

By Music we understand that art which seeks to please the ear and affect the heart by tones. As the

Creator has given us colors to please the eye, and fruits for the taste, so has he provided for the gratification of the ear, by giving to man a capacity for music, and to find pleasure therein. Not only are our senses given us for use, but provision has been made by which each of them may be a source of happiness and enjoyment. This is particularly the case with the sense of hearing. Those who have examined the subject tell us, that nearly every sound possesses, to a greater or less degree, the properties of a musical sound, viz. length, pitch, power. Any sound which does not possess these properties, is to us a source of pain. All will undoubtedly admit that most of the sounds we constantly hear, such as the voices of those around us, the hum of business, the wind, the murmur of the brook, &c., are to us sources of pleasure, and that very few of the sounds which incessantly salute our ears, are otherwise. I once listened to the conversation of a deaf mute, the tones of whose voice were so entirely destitute of the properties which constitute a musical sound, that I can truly say it was painful to hear him speak.

Although nearly all the sounds of every description which we hourly hear, are sources of pleasure to a greater or less degree, those tones which seem to have been given for the express purpose of affording gratification through this sense, are those which are called musical tones. It is not necessary for our purpose to speak of the difference between musical and other sounds; the fact is well known, that while

all afford pleasure, musical sounds do so in a peculiar sense. I do not remember to have ever seen or heard of a person, civilized or savage, who disliked to listen to musical sounds. A fondness for them seems to be implanted by nature.

The Creator has given to every human being the power to produce musical tones. The existence of this power in all, is, I am aware, doubted by many. Those, however, who have devoted particular attention to the subject, are, I believe, unanimous in the opinion that where there is no malformation of the vocal organs, all can learn to sing. Perhaps the only reason why a contrary opinion has ever been entertained, is, that until within a few years, so few have attempted the cultivation of this talent, before they have arrived at mature age. If a man, whose vocal organs were perfect, should not attempt to speak until he arrived at the age of twenty-five, he would probably find the same difficulty in learning to talk, that many whose vocal organs have not been exercised in producing musical sounds before that age, have found in learning to sing. It is comparatively but a few years since the idea of teaching children to sing was first entertained, at least in this country. Previous to that time, I presume, musical instruction was confined exclusively to adults, and it is not to be wondered at, if among those who made the attempt, many were found whose vocal organs had "rusted out," before the endeavor had been made to use them. The common language with regard to such was, that they were destitute of a musical ear, and that all attempts

made by them to learn to sing would be useless. The ability to sing was regarded, as much a peculiar gift of nature, as we now consider the art of the ventriloquist. I believe the truth to be, that those whom accident or inclination had induced to use their voices when young, learned to sing, and those who did not, found it a difficult matter. I know the faculty of hearing is possessed in various degrees by different individuals, from the most acute perception of sounds, to a state of almost absolute deafness, but I do not believe any one who could hear at all was ever destitute of a musical ear, if by that expression is meant the ability to appreciate the difference in musical sounds.

If children are taught to sing when they are taught to read, as many will learn one art as the other. All of course will not excel in singing, all do not excel in reading; but as it is rare to find a child who *cannot* learn to read, so, if music becomes a branch of study in common schools, it will, in my opinion, be difficult to find a child who *cannot* learn to sing.

One of the most common objections to the introduction of music into common schools, is, that it is not one of the *necessary* branches of knowledge, or in other words, that it is of no use. It is not improbable that music has uses which are not understood, at least by those who have never attended to it. Within the throat of every one of the human race, is placed an instrument, to imitate the tones of which has been the highest ambition of every musical instrument maker, from the time of Jubal to the

present day. In Freiburg in Switzerland, is an organ which is visited by thousands, as one of the greatest curiosities in Europe. It is famous, not on account of its size, or its power, but simply because it contains a stop which is an exact imitation of the human voice. The Creator has given to all the wondrous instrument of which this famous organ is but an imitation, and shall any dare to say it is of no use? Have we not the rather reason to infer, that we have no right to neglect its cultivation?

A certain author says, "Music has a higher office than merely to gratify and please; it is in itself a language, by the medium of which emotions may be expressed which are beyond the power of common language. It cannot perhaps convey ideas distinctly to the mind, but it awakens feelings, suggests and heightens emotions, and produces vague yet powerful effects upon the heart. One whose taste is cultivated, cannot listen to a good instrumental performance without being affected by it, although he might be unable to describe his sensations. Because such sensations often cannot be described, the effects of music are by some said to be merely sensual. It is addressed to the ear indeed; but all the influences we receive from without are conveyed through the medium of the senses, and the tones of music often speak a language richer in meaning than any words can convey. It will hardly be pretended that feelings which cannot be expressed in words, are necessarily of a lower order than those which can be so expressed. Nothing is merely sensual, which makes a lasting spiritual im-

pression upon the soul; and he who denies to music such a power has not heard its sublimest strains, or has not the capacity to appreciate them."

If music can of itself express emotions and feelings, much more does it possess the power to heighten those suggested by accompanying words, or from other causes. A German writer says, "A man often forgets his friends, his early instructions, his native land, and sometimes even his native language, but the songs of his childhood and of his youth, never fade from his memory." One of the principal arguments urged in favor of the introduction of music into common schools, is based upon this fact. Its advocates believe that, by means of songs containing moral and religious lessons, the youthful mind may be stored with truths, which will never be obliterated. He who said "let me make the ballads of a nation, and you may make its laws," well understood the power of music in this respect.

In Germany, where music is taught in all the public schools, patriotic songs, moral and religious songs, songs to inspire reverence for rulers, love of country, obedience to parents, &c., are especially enjoined by the respective governments, as powerful means in training the children, for good citizens and loyal subjects.

The effect produced by the Marseilles Hymn, and the songs used in some of our own political contests, will illustrate the power which the ballads of a nation possess. The successful party in the presidential election of 1841 were accused by their oppo-

nents, and with no little truth, of having *sung* themselves into office. The kind of songs which produced the ascribed effect is undoubtedly known to all.

The idea that music exercises in the manner described, a powerful influence upon the character of a people, is not new. History tells us that among the ancient Greeks, while music was used to awaken patriotic and religious feelings, its influence was highly beneficial; but when it became generally used in bacchanalian and love songs, a corruption of the national manners was the consequence.

The beneficial effect which music has upon those who practice it, has often been mentioned by those who have had opportunities for observing it. A German author remarks, "By song, the chords of the heart are made to vibrate quickly when they would have remained mute to any other impulse. It is this art which imparts that inmost, that indispensable warmth, whence the will derives an energy, hope a brightness, enthusiasm a strength, that the efforts of reason alone would ever fail to impart. It is this art which fortifies the resolution, and ennobles the aims of its votaries. It is this art which we must venerate and hold dear, as one of the surest means of moral regeneration for youth and age." Says another, "In Germany more than in any other country, it may be seen how peculiar a charm singing gives to the existence of children, and how much animation to the manners of the people; how happy is its influence in school and national festivals, and how

much in the whole it contributes to the welfare of the nation." Niemeyer, a writer on education in Prussia, observes, "the organs of speech are improved by singing; the ear is formed and rendered more acute, and the well known power of music even upon savages, proves we should least of all neglect a branch of instruction which exerts so important an influence in softening the passions, in elevating the social and finer feelings, in aiding moral cultivation and cherishing the spirit of devotion." Schwartz remarks, "in the cultivation of the ear we have a means of cultivating the harmony of the soul and the purity of the heart, and promoting heavenly love and spiritual life, which will not probably be appreciated for a long time to come." Denzel, who was employed in organizing the school system in several of the German States, says, "the formation of the voice is too important, and the influence of vocal music, on the mind and heart, too great to dispense with it in common schools. It is no longer doubted that it ought to constitute a branch of study, in every institution of elementary education. A German poet, writes

"Wo man singt, da lässt sich frölich nieder,
Böse Menchen haben keiner Lieder."*

Shakspeare's opinion of "the man that has no music in his soul," is well known.

A few months since the London Times contained a notice of the presentation of a silver vase by the

* Cheerfully join the company of those who are engaged in singing. Bad men have no songs.

committee of the journeymen mechanics of London to Mr. John Hullah, as a testimonial of the estimation in which they regarded his labors in introducing the study of vocal music among them. It was stated in the Address, that thousands who formerly spent their evenings in beer shops, and in vicious amusements, now devote them to the practice of this ennobling art, and with the happiest effect, upon the moral and social character.

Martin Luther excels all other writers in his praise of this art. Speaking of it in one place he says, "music is a discipline master which makes the people softer and milder, more polite and more rational. It is a beautiful and noble gift of God. I would not part with what little I know of it for a great deal. Youth should be instructed in this art, for it makes fine, capable people. It is indispensable to have music taught in the schools. The schoolmaster that will not teach it, is not the schoolmaster for me." Luther seemed to feel that it was impossible for him to say too much on this subject. He undoubtedly found music a powerful aid in disseminating the truths he spent his life in proclaiming. Indeed, so great was the influence exerted by his chorals which were sung by the whole congregation assembled to hear him preach, that the Roman Catholics felt obliged to adopt the same style of singing, and to this day the singing in the Catholic churches of Germany is performed by the whole congregation, instead of the select orchestras, which are found in churches of that persuasion in other countries. Luther concludes an

essay upon this subject with the following passage: "I wish all lovers of the free art of music, mercy and peace from God the Father, and our Lord Jesus Christ. I would fain give that beautiful and costly gift of God its due share of praise, but I find that its uses are so many and so great, and it is so noble and exalted an art, that I do not know how I shall begin or end, nor can I think of any form or way to show how dear, and how worthy of every man's praise it is. I am so overwhelmed with the rich fulness of the praise of this art, that I am not able to exalt or praise it enough; for who can say what could be said on this subject. If one would say or show all, still would he forget many things, and finally find it impossible to praise or exalt this noble art enough."

Even Plato was impressed with the importance of introducing music among the studies of the young. In his dialogues, he says, "music improves every power of the soul, not alone in art, but also in knowledge, so that in the end she begets a love of the good, as well as a love of the beautiful; therefore, in my opinion, it should occupy a prominent place in the education of youth."

I may be mistaken, but I fear there are few towns in which music can be introduced as a regular branch of study in common schools without, at first, meeting with those who are opposed to it. It seems to me important that those who would make the attempt, should supply themselves with arguments which will meet any objections that may be offered. To suggest some ideas upon the subject, I have made the

foregoing short extracts, presuming the authors from whom they are taken, are better authority than my own simple opinion. I may be permitted to remark, that such extracts might be multiplied almost ad-infinitum, for there is no end to the essays, addresses, and books which have been published on this subject, especially in Germany. I could wish that I was more familiar with the objections usually urged against the cultivation of music. Residing, however, in a city where they are not often heard, I have reason to suppose that I am acquainted with but few of them. I presume they all arise from a vague idea, that music is in some way or other, either morally or physically injurious. There is among us at least one religious sect, who forbid its use in any form among their members. I have been told by one who had the means of knowing, that, as a general thing, the religious part of the community in England and Scotland, will have little or nothing to do with it, because it is so much used in theatres, balls and other fashionable amusements. For one, I can hardly understand why they should not with equal care, avoid the use of lamps and candles, because these articles perform so important a part in the amusements mentioned. Whoever studies the nature of music, and observes its legitimate tendency, can but coincide with Luther, and become convinced that it is a noble gift of God. Like all his other gifts it has been too generally perverted, but is it any argument against its use, that the votaries of pleasure have so long used its powers in the promotion of their designs? Are we for-

ever to refuse to use this art for the purposes for which God intended it, because the vicious have for so many years held it almost exclusively in their possession? Although I have often heard the remark made, that the practice of music is injurious to morals, yet I have never seen the shadow of proof assigned in support of the assertion. The same is true of the remark sometimes made, that singing is injurious to health. It is dangerous to use the voice in singing, only when it is dangerous to use it by much talking; that is, when the lungs are affected by cold, or are otherwise diseased. Persons who are fond of music, sometimes force the lungs in singing when they are in an unhealthy state, and thus by excessive irritation bring on disease; but this is by no means the natural tendency of the exercise to which the vocal organs are subjected in the production of musical sounds. On the contrary, singing has a tendency to strengthen the lungs and improve the health. It was the opinion of Dr. Rush, that singing by young ladies, whom the customs of society debar from many other kinds of healthy exercise, is to be cultivated not only as an accomplishment, but also as a means of preserving health. In writing upon the subject, he says, "I here introduce a fact which has been suggested to me by my profession, which is, that the exercise of the organs of the breast in singing, contributes very much to defend them from those diseases, to which the climate and other causes expose them. The Germans are seldom afflicted with consumption; nor have I ever known more than one instance of the

spitting of blood among them. This is in part occasioned by the strength which their lungs acquire by exercising them frequently in vocal music, which constitutes an essential branch of their education." Instances have been known, where persons who were strongly disposed to consumption, were restored to health by the exercise of the lungs in singing; and where weakly children have become robust and healthy by this constant exercise of the lungs. This result is perfectly philosophical. Singing tends to expand the chest, and thus increase the activity and powers of the vital organs.

To learn to sing, scholars must be subjected to vocal exercises, for the purpose of acquiring the necessary control of the vocal organs; and to mental exercises, for the purpose of acquiring the ability to calculate the relative length, pitch and power of musical tones, and to obtain the requisite knowledge of the characters used in written music. The exercise of the vocal organs, should commence in early childhood; indeed it cannot begin too early. The mode most agreeable to children, is, the practice of songs suited to their capacities. This is the best, and perhaps the only method for young children. The songs must of course be learned by rote. For one, I should not object to a course of instruction, which should occupy all of the time devoted to this branch, in those classes in which children are under nine or ten years of age, in singing songs by rote. I know that teaching by rote is so objectionable in most studies, that the very term sounds unpleasantly, at least to teach-

ers; but this kind of instruction is, nevertheless, very much to be recommended in teaching vocal music. Singing by rote, holds the same place in learning to sing, that talking holds in learning to read. We do not attempt to teach a child to read before it can speak; we should not attempt to teach a child the rules of music, before his vocal organs are sufficiently exercised, to enable him to produce the sounds which the written characters indicate. If a class of children devote a little time each day, or an hour twice a week to the practice of juvenile songs, from the time they commence attending any school until they arrive at the age of nine or ten years, we may well suppose, they will be able easily to execute such melodic passages as occur in common music. In the experience I have had as a teacher of adult singing schools, I have found that nine-tenths of the difficulties the pupils of such schools meet with, arise from inability to control the vocal organs, and not from any difficulty in correctly apprehending the rules and principles. The more advanced in age the pupil becomes, the more readily will he understand the theory of music; but the greater difficulty will he find in acquiring the ability to produce the desired sounds; and vice-versa. The practice of songs in the manner described, besides affording the necessary exercise to the vocal organs, stores the mind of the pupil with musical ideas, and improves his taste and ability to appreciate good music, just as reading a good author in a foreign language, accustoms one to good modes of expression in that language, and we all

know that such an author may be profitably read, long before one is master of all the rules and principles of the language. A great responsibility rests upon the teacher in the selection of songs for this kind of practice. They should be by good composers, chaste in style, and correct in musical composition; but before everything else, should the *words* be such as the teacher will be willing to have indelibly enstamped upon his pupils' minds and memories. A few years ago, I think it could have been said, with truth, that three-quarters of the songs on the catalogues of our music stores were love songs, drinking songs, hunting songs, or songs of a similar character. At present it is not so difficult to find those which are adapted for school use. I cannot help repeating the remark that, in the selection of his songs the teacher should bear in mind "that songs learned in childhood never fade from the memory."

I have said that previous to the age of nine or ten years, I should not object to having all of the time devoted to the music lesson, spent in singing by rote. I do not believe many children under that age, are capable of understanding much about the theory. I should not expect a scholar under thirteen, at least, to comprehend it perfectly. The study of the elementary principles of music is somewhat akin to that of written arithmetic. Those scholars who understand addition, subtraction, multiplication and division, will be able to comprehend the easier rules of music; while those only who have mastered the most diffi-

cult problems in the former study, will find it easy to understand the minute divisions and complicated combinations of notes, in the more advanced music lessons.

While a class is practising by rote, a skilful teacher can introduce much valuable instruction, apart from the mere imitation of sounds. A good intonation, an energetic delivery of the voice, a correct pronunciation, and the proper expression of the words and music, can be as well acquired while the pupils are singing by rote, as after they are acquainted with the written characters. The teacher can also, little by little, introduce exercises in beating time, and exercises in the intervals; all of which will be of benefit to the pupils when they begin to study the theory systematically.

It is not unfrequently the case that fault is found with teachers of singing classes, because they teach so much by rote. I have no doubt that many attend too much to this kind of exercise, and neglect the more difficult and uninteresting study of the elementary principles. Scholars are always interested in singing songs; but I might almost say, never, in the dry study of the theory. A more pleasant occupation than teaching a class to sing by rote, or a more difficult one than teaching them to sing by note, can hardly be imagined. Ask a school to stop an hour after the time for closing, for the purpose of learning new songs, and all will cheerfully remain. Ask the same scholars to remain for the purpose of learning more about the theory than they knew be-

fore, and, and if you leave it optional with them to go or tarry, three-quarters will leave the room. It requires rare qualities in a teacher to keep the attention of a large school sufficiently to make the rules and principles well understood. Anybody who can sing tolerably well, can teach a class to sing by rote. I am induced to make these remarks by the fact, that instances have come to my knowledge, where teachers, under the impression that nothing should be learned by rote, that a child must not be permitted to produce a musical sound until he knows all about the written characters which indicate it, have endeavored to force children who are five, six, seven, or eight years old, to study rules and principles, which scholars of twelve or thirteen can scarce understand. The time of the younger scholars is much more profitably employed in practising songs, which they may learn by imitating their teacher, than by attempting to understand that which is beyond their comprehension. A teacher, however, who permits the older pupils to sing exclusively by rote, is inexcusable. Those scholars who are twelve years of age, and upwards, should be required to understand the elementary principles thoroughly.

Music has formed a branch of study in the Boston grammar schools, for about seven years. These schools, as is perhaps well known, number from four to five hundred pupils each. Half of this number only attend the music lessons, the rooms not being large enough to contain all at the same time. The ages of those who receive musical instruction vary

from nine to sixteen years, and those who attend school until the last named age, as a general thing, will have been under instruction from four to six years. It is believed that few who pass regularly through all the classes, leave school without a thorough knowledge of the elementary principles of music. The schools are taught by professional teachers, two half hours in the week being devoted to each. The children who are required to attend this exercise, are of such age as to be able to understand the theory of music, and the time is devoted mainly to the study of the principles; very little time, comparatively, being spent in actual singing. The aim of the teacher is, that each pupil shall, before leaving school, be perfectly acquainted with the rules and principles of music. In the limited time devoted to the music lesson, there is not much opportunity for actual practice; it cannot, therefore, be expected, that, with no other exercise, than is had in the music lesson, the pupils will possess much execution. With a thorough knowledge of the written characters, however, there is little danger but that opportunities will be sought elsewhere for practice; for example, in the family circle, in the rehearsals of church choirs, &c. I am acquainted with several choirs in Boston, in which are scholars of the public schools, who, with no other knowledge of the principles of music than they have acquired in school, equal, and in not a few instances, excel the older members of the choirs. An acquaintance with the rules acquired at school, has made the performance of music easy to

them, and from choice they have sought opportunities for practice. Could I have my wish with regard to the Boston schools, I would have music taught by rote in the primary schools, and in the lower classes of the grammar schools, so that when the pupils enter the classes in which instruction in the theory is given, their vocal organs may be already sufficiently exercised to produce the sounds, which the characters indicate. I would also have sufficient time devoted to the lessons of the upper classes, to enable the teacher not only to impart a *knowledge* of the elements, but an ability to *perform* any combination of notes which would be likely to occur in common music. I say I would have more time devoted to the music lesson. I have reference, however, to the improvement I could wish the scholars should make in music. By no means would I have this improvement made at the expense of other necessary studies. In the schools which have been mentioned, I do not see how more time can be devoted to this study, and I am, therefore, not only contented with that which is allowed, but grateful that so much is cheerfully relinquished by the masters, who doubtless have abundant employment for every moment included in the prescribed school hours. In these schools, all instruction is given orally, with the aid of a black-board, no textbook being used.

I cannot conclude my remarks without a word respecting music teachers. The experiment has been made in more than one town, and has failed, as some

have supposed, from the impossibility of teaching children to sing, but really on account of the incompetency of the teacher. I need not inform an association of teachers, that the *possession* of knowledge, and the *ability to impart it to others*, are two entirely different things. This distinction however is rarely made with regard to music teachers. The man who can sing the best, or who can perform the best upon an instrument, is considered, in nine cases out of ten, as the best qualified to teach a school. A greater mistake cannot well be made. One of the best singers I ever heard in my life, acknowledged to me, that he did not know one note from another. He surely was not qualified to teach the notes to others. I have had personal conversation with a gentleman, who is now one of the best teachers of music in Germany. In his younger days, he was in the employ of Pestalozzi, in his institution in Switzerland. On account of a defect in his voice, he never was able to sing even the scale. He nevertheless made himself perfect master of the inductive method, and has always been a successful teacher, giving the examples with an instrument, which he could not give with his voice. It is better that the teacher should excel in the art of teaching, than that he should excel as a musical performer; but better still if he excels in both departments.

I do not know but it was expected this lecture would have been a practical illustration of the best method for teaching music in schools. I did not however so understand its design, and do not suppose

that in one lecture any thing like an outline of the system, now in common use, could be given. Courses of lectures on this subject occupying several successive days, are yearly given in different parts of the country. To these I presume all can have access, who wish to become practically acquainted with the method. The Pestalozzian system, as explained in the Boston Academy of Music's Manual of Instruction, is the one which is generally in use.

I had supposed the design of this Address to be, the setting forth of the reasons why vocal music should form a regular branch of study in our common schools. These I conceive to be, first; because this beautiful talent is not the invention of man, but a capacity bestowed upon man by his Creator, and therefore a talent he has no right to neglect. Second, because the influence of music upon the heart, is, beyond all question such, that much good and no possible evil can result from its cultivation. Third, because the day-school is the best, and almost the only place in which it can be successfully taught to children. Fourth, because if the ability to sing is not acquired in childhood, there is little prospect of attaining it at mature age.

I need not inform you, gentlemen, that I am more familiar with the rules of music than with those of eloquence, and more accustomed to connecting musical ideas together, than the different parts of an argument. I could most ardently desire to hear this subject handled by one, who could look upon it with the eye of a musician, but speak of it with the tongue

of an orator. I can but hope, in conclusion, that the few remarks I have offered, may lead to an examination of the subject, which, I am confident, can but result in the conviction that, in our common schools, vocal music ought to form a regular branch of instruction.

TO THE READER.

This Lecture was written more than a year ago, and without any expectation of its ever being published. This is the reason why references are not made to the various authorities, consulted in its preparation. To go over it again for that purpose is a task which would require more time than I now have to bestow. I can only say that I was careful to make no statement which was not supported by what seemed to me to be good authority. It will be seen that I have been largely indebted to the labors of others, and that I can lay claim to little else than the arrangement. I acknowledge especially my obligations to that excellent work, the larger Geography of the late Mr. Woodbridge. The Lecture is now published upon the assurance of those, whose judgment and candor are entitled to equal respect, that it would be of some service to the cause of education.

G. S. H.

Boston, January, 1846.

LECTURE IX.

ON

THE CONNECTION

BETWEEN

GEOGRAPHY AND HISTORY.

By GEORGE S. HILLARD.

Geography, as commonly taught, is one of the dryest and least profitable of studies. It is a mere bead-roll of names, dates and distances. It has no animating principle of life. It is the skeleton and not the living body; the *hortus siccus* of dried plants and not the garden. But viewed in connection with man, and the history of man, it becomes a pursuit alike attractive and instructing. The breath of life is thus breathed into it. Without it, history itself can be but imperfectly understood. To comprehend the biography of nations, we must know the physical structure and properties of the regions they occupy, their relations to the sea, the character and di-

rection of their streams of water, the proportion in which the surface of the soil is distributed into mountains, plains and valleys, and their stores of mineral wealth.

The most superficial acquaintance with history reveals to us great inequalities in the fortune and condition of the various members of the human family. The countries, in which one would wish to have been born, are few, and of limited extent. The brutal savage and the half civilized barbarian form the rule, and cultivated and intelligent man, the exception. All the moral and intellectual wealth of the world has been gathered from a small portion of the earth's surface. There are vast regions — tracts which the eagle's wing cannot measure without flagging — with whose people, history has as little to do, as with the squabbles of a rookery or the dynasties of a bee-hive. Among civilized and historical nations, too, we perceive peculiar characteristics which are modified, but not essentially altered by the lapse of time. Some are agricultural, some pastoral, some commercial, and some manufacturing, and the combination of two or more of these forms of industry is found only in the most favored. Some nations invariably fall an easy prey to an invading force and wear with patience a foreign yoke; others are obstinate in their resistance, and sullen and restless when subdued. In some parts, the traces of conquest are soon obliterated; in others they continue long. As nothing happens by chance, there are causes for all these differences, more or less obvious as the case may be. The dan-

ger in such inquiries is that of ascribing too much importance to a single element. Most effects may be traced to a combination of causes, and men will have their attention called to one particular kind of influence rather than another, according to the direction in which their minds have been trained. There are distinctions and superiorities of race which seem to triumph over the influences of soil and climate, yet who can tell how much of this is owing to the character originally impressed upon the race, and how much, to the favorable circumstances of growth and development. We are justly proud, for instance, of the moral and intellectual superiority of the Anglo-Saxon race. But that was but a narrow rivulet flowing from that great Teutonic wave which rolled in from Asia to Europe. Was that purer and better than all its kindred streams? or is the present position and influence of the race to be ascribed to their long occupation of a spot so favorable to growth and development, as Great Britain?

We easily recognise the agency of commerce in civilizing and humanizing man. The merchants are the great peace-makers, and the sails of a distant ship recall to the mind as well as the eye, the wings of a dove. But the ocean is not merely to be viewed as the great highway of commerce, and the means by which wealth is exchanged and distributed. Its influence is not confined to the maritime or the trading class. It takes part in the education of every child who is born within the roar of its waves. It spreads itself out as the commensurate antagonist of the

mind of man. It trains the hand, the eye, and the brain. It makes men quick-witted, fruitful in expedients, and calm in the midst of dangers. The sailor on shore feels a sense of superiority to the landsmen around him, and not without reason; for his occupation is such that his life often depends upon the best exercise of his best faculties. If he steered his ship with the sleepy carelessness with which the farmer drives his team, she would go to pieces upon the rocks. The boy who learns to swim and manage a boat, is learning something else at the same time.

Who cannot taste the flavor of the sea in the lives and speech of those sagacious and strong-minded men, whom the Old Colony is every year sending up to Boston to make fortunes and found families?

Goethe, in one of his literary criticisms, speaks of the ocean as having exerted a decided influence upon the poetry of Spain and of England, and, in another place, he says, with great beauty, that the meanest of the poets of England is entitled to be heard, for he has Shakspeare for a countryman, and the ocean at his feet.

In looking at the map of the Eastern Continent, we recognise a proportion between the civilization and the extent of sea-coast of its three great divisions. Africa is shaped like an egg. It is a compact body without members. It nowhere opens arms of invitation to the sea. It is not clasped and indented by those humanizing waves. Its line of coast is smooth, not jutting out into far reaching promontories and enclosing sheltered harbors. It has only one mile of

sea-coast for every nine hundred square miles of surface. This is one main reason why we know so little of Africa; why it has ever been, and probably will ever be the land of mystery. Commerce is confined to a thin rim of coast; the boundless interior it cannot touch. The historical interest of Africa hardly goes beyond the bounds of Egypt, and Egypt owes every thing to the Nile. Asia is more favored in this respect than Africa, in having one mile of sea-coast for every five hundred square miles of surface. Its form is that of a vast body with projecting members. Among these, are the peninsulas of Arabia, Asia Minor, Hindostan, India beyond the Ganges and China, and these countries are, with one or two exceptions, the only parts of Asia which stimulate or reward historical inquiry. To these regions the moral interest of Asia is confined. Separated from these maritime countries by that immense chain of mountains, which under various names stretches across the continent, and forms its most characteristic physical feature, is a vast tract of slopes, terraces and table lands, of which we know little, and are content to know little. From its physical features, a large part of this region can never be the abode of a stationary and agricultural population, but only of those wandering tribes, whose roving and unsettled habits, enforced by necessity, forbid any progressive improvement in the arts that embellish and dignify life. Until men build houses and form local interests and attachments, the work of civilization does not begin. The modern Tartar is a re-production of the ancient Scythian.

To the historical student, the central regions of Asia are interesting chiefly, as having been the primitive seats of those great streams of population which, in former ages flowed through the mountain gates of the Caucasus over Europe, and from Europe are now covering America.

The maritime position of Arabia contributed to the development of that enterprising spirit, whose fruits were seen in a line of conquests extending from Bagdad to the Straits of Gibraltar, and also to that intellectual activity, by which it was more honorably distinguished, of which we still have memorials in the Arabic numerals, one of the simplest yet most valuable of inventions, and in the Arabian Nights' Entertainments, the most popular book in the world; the only one with which both Europe and Asia are familiar.

Viewing Europe in this aspect, we see it to be merely a peninsular projection from the continental mass of Asia. Its inland seas penetrate farther and are more deeply embayed than those of any other portion of the globe. Its interior is pierced by the Adriatic and the Black seas. The timber, the metals, the leather and the hemp of the north, find their way to the south through the gates of the Baltic. The spots are few where the ocean does not cast its spray. Europe has one mile of sea-coast for every one hundred and ninety-five square miles of surface. It is thus eminently adapted to the peaceful pursuits of commerce. The sea everywhere invites the enterprising to embark upon its bosom.

The sagacious mind of Peter the Great saw the necesity of uniting his empire to the rest of Europe by the ties of commerce, in order that it might take its place in the march of European civilization. He selected for the site of his capital, the only spot from which such an intercourse could be maintained — a low, marshy island, covered with mud in summer, and a frozen pool in winter. The difficulties to be overcome were immense, but they were met by despotic power and an iron will. The foundation of St. Petersburg cost the lives of more than a hundred thousand men, who perished from fatigue, exposure to cold, and damp, and insufficient food. But it was founded; and the traveller is now startled with the apparition of the most magnificent capital in Europe built upon a saturated sponge, of which, it is said, the Neva will one day "make a sop."

Turning from the sea to the firm earth, we perceive that of the various forms into which the land is thrown, that which impresses the mind most strongly, is also that which is most powerful in its influence upon man's physical destiny. I refer tochains of mountains. It is a fact without dispute, that the force of local attachment is stronger in mountainous than in level countries. The heart of the mountaineer is contracted when he descends into the plains, and the dull air cannot give free play to his lungs. The wasting home-sickness produced in the Swiss by hearing, in a foreign land, the tunes associated with the peaks and glaciers of his native Alps, has become one of the common-places of literature. He will easily comprehend the depth of

this feeling who has had the happiness to pass any considerable time in a mountainous region, who has been conscious of the expanded life there breathed into him, who has felt all that was low rebuked, and all that was weak strengthened, by the majestic forms that rose around him, into whose soul the mountain winds have blown peace, into whose mind upward-soaring thoughts have fallen from the far, cold peaks. If such be the impression which mountain scenery produces upon an occasional visitor, we can conceive its effect upon him whose mind and eye are fed by it from infancy, who becomes familiar with the ever-changing aspects of beauty and grandeur which mountains assume; who watches them through the long days of summer, sees their peaks overflowed with the glory of morning, the shadows of noon-day clouds reposing on their green sides, the golden light and purple shade which the sunset flings over them, and the mantle of spiritual beauty which drops upon them from the moon. We are all familiar with the sentiment of Rob Roy—"My heart would sink, and my arm would shrink and wither like fern in the frost, were I to lose sight of my native hills." Scott himself said nearly the same thing, in a conversation with our countryman Irving, who had expressed some disappointment in that scenery of the Tweed around which the genius of the Border minstrel had thrown so imperishable a charm. "It may be partiality," said Scott, "but to my eye these gray hills and all this wild border country have beauties peculiar to themselves. I like the very nakedness of the

land. It has something bold, and stern, and solitary about it. When I have been for some time in the rich scenery about Edinburgh — which is ornamented garden land — I begin to wish myself back again among my honest gray hills; and if I did not see the heather, at least once a year, I think I should die." *

One of the most obvious advantages of mountains is, that they form a natural barrier of defence, seconded by the hardihood of frame and soul inspired by the keen mountain air. This is confirmed by history. England was conquered by the Romans, the Saxons, and the Danes, and the Normans; but the Picts, behind their mountains' fastnesses, were never subdued; nor were the Welch till a comparatively late period. The flat plain of Egypt has been repeatedly conquered, but the high table land of Abyssinia has for centuries preserved its independence and its religion. The mountain ramparts of northern Spain rolled back the tide of Moorish invasion, gave refuge to the remnants of the Gothic kingdom, and enabled them to commence that career of re-conquest which finally recovered all they had lost. The Alpine land of Kurdistan has furnished for ages an impregnable barrier to the Nestorian Christians. The whole available force of Russia has attempted in vain to bridle the mountaineers of Circassia. Illustrations of the same truth may be seen in the long-protracted resistance which the Tyrolese offered to the arms of France, and in the present contest between the French

* Irving's "Abbotsford and Newstead Abbey," (Crayon Miscellany, No. 2), p. 26.

colony of Algiers and that brave Arab chieftain, Abd el Kader, a man in whose veins runs the true heroic blood; the blood of Aristomenes, of Arminius, of William Wallace, of Hofer and of John Stark — who, from the craggy fortresses of Mount Atlas defies the power of the most military nation in Europe.

We may view mountains in another aspect, in which they exercise great influence over the physical condition of the race, in the supply of water which they furnish to the level regions of the earth. The vapor of the atmosphere is constantly condensed and deposited in the form of water by the cold air of their summits, and the loftiest of them are stored with the accumulated snows of a thousand winters, and from their sides, streams, rivulets, and threads of water are constantly flowing, which, gathered into hollows, become lakes, or leap from ledge to ledge with the song and dance of mountain torrents, or, swelled by kindred waves, expand into navigable rivers; thus completing the great circuit of the waters and carrying back to the ocean the floods which rose in airy vapors from its capacious breast. Mountains thus become of paramount importance to man, and without them the torrid zone could not be inhabited; and there, where most wanted, the providence of God has planted them most thickly, has reared their crests to the highest elevation and stored most abundantly their magazines of snow. Wherever a continent forms an extended plain for more than a few hundred miles, under a generally cloudless sky, a tract of desert land is generally the consequence. A remarkable

peculiarity of the Eastern continent is a belt of deserts extending from the western coast of Africa to the eastern coast of Asia, bearing various names, and comprising a region as large as the whole of Europe. One great reason of this is the remoteness of these plains from ranges of mountains, and their consequent deficiency in moisture. In Africa, the Atlas mountains of Barbary are separated from the great central ranges of the continent, by a space of more than a thousand miles in breadth, and for that distance no considerable river flows into the Atlantic. There are no mountain shadows to cool those burning wastes, and no mountain snows to fertilize them. The eye grows dim, and the heart sickens before these interminable plains, where the unbroken horizon line supports a cloudless and dazzling sky, which scorches the brain like glowing steel. As soon as we reach the central ranges of mountains, we come to a fertile region, sparkling with streams, rich in vegetable productions, and supporting a numerous and stationary population, which has made considerable advances in the arts of life. A good physical map of Asia would show similar peculiarities of structure, for though that quarter of the globe abounds with long ranges of high mountains, yet, as all things there are on the most colossal scale, its plains are of proportionate extent. The great eastern table land of that continent, for instance, comprising the plateau of Thibet and the desert of Gobi, extends over a space equal to one half of Europe, a region too vast to be penetrated

by the waters of the mountains which enclose it, though some of these are the highest on the globe.

But these results are not wholly to be ascribed to the absence of mountains. Their action is essentially modified by that of the prevalent winds of a country. Winds blowing from the sea upon the land deposit their moisture and grow dry as they approach the interior. North and south of the equator, there are steady winds blowing in an easterly direction, well known to navigators as the trade-winds. The south-eastern trade-wind blowing across the Atlantic, reaches the coast of Brazil, saturated with moisture, which is gradually deposited as the wind sweeps over the continent, and is the main cause of the inexhaustible fertility of those regions. When this wind reaches the Andes, whatever moisture it may retain is withdrawn by the condensing power of those snowy ranges, and, consequently, the countries of Chili and Peru, though a mere terrace between the mountains and the ocean, are parched with drought and abound in barren and sandy wastes.

The height of mountains and their distance from the sea, determine the nature and course of rivers. The waters which descend from mountains assume a different character, as they are gathered into longitudinal or transverse channels. Longitudinal channels, or valleys, are those which lie between parallel chains of mountains; transverse valleys are those which cut through mountain ranges. The former flow more gently and through a larger space, the latter are shorter in their course and more abrupt in

their movements. The Mississippi and Connecticut are instances of rivers flowing through longitudinal valleys. The passages of the Hudson through the Highlands, and of the Potomac through the Blue Ridge, at Harper's Ferry, are examples of the course of a river through a transverse channel. These passages are generally productive of scenery of striking grandeur. The streams of longitudinal valleys are more navigable, those of transverse valleys more available for water power. In the timber-growing countries, as Maine and Norway, the prevalent streams are of the latter kind, furnishing the means of preparing the timber for the builder's use, a want of which is much felt in regions like the valley of the Mississippi, which are so formed as to render it impossible to have streams of rapid descent.

The combined action of mountains and rivers has an important influence in the formation of those alluvial plains which are so thickly scattered over the earth's surface, and form its most fertile portions. The action of the atmosphere is constantly disintegrating the surface of the various rocks of which mountains are composed, and every drop of water which flows from their sides is more or less charged with earthy matter thus decomposed, which is gradually deposited by the streams as they flow on to the sea. In large rivers the amount thus brought downis very great. Mr. Lyell estimates the amount of earthy matter discharged daily by the river Ganges into the Bay of Bengal to be equal in bulk and weight, at least, to the great pyramids of Egypt. The muddy

waters of the river Amazons may be discerned three hundred miles from its mouth. The river Rhone enters the lake of Geneva in an extremely turbid state, but leaves it, beautifully transparent. Of course it deposits its earthy matter in its passage, and consequently at the upper end of the lake there is a tract of alluvial land nearly eight miles in length, formed by these deposits. The same process is going on by the agency of other streams in other portions of the lake, and if the present course of nature be undisturbed, its whole surface will, at some future and indefinitely distant period, be converted into green meadows. Thus we have to thank the mountains ultimately for the finest portions of the earth we live upon, for these alluvial soils are, from the chemical elements which enter into their composition, always fertile; in a greater or less degree, according to the geological character of the rocks from which they were originally decomposed. In our dear barren Massachusetts these are the only soils of much value for arable purposes in their natural state; and this is the reason why an acre of meadow land at Northampton is worth more than a square mile of the bleak hills of Worthington or Peru.

Allow me now to ask your attention while I apply these general principles to some of the most remarkable nations of the globe. The great African desert of Sahara is bounded on the east by Egypt, a most singular region, deeply interesting to the historical inquirer, especially in our times, from the spirit and success with which its monuments have been studied.

Egypt is the child of the Nile, or rather of the mountains, from which the various streams which form the Nile, take their rise. The clouds of moisture which the sun draws from the Mediterranean, are borne in a southerly direction by the prevalent winds till they encounter the high mountain ranges of Abyssinia. There they are condensed and fall in copious rains, which cause the periodical inundations of the Nile; a peculiarity of that river, the vast consequences of which I need not detail to you. The alluvial valley of the Nile varies in breadth from two to ten miles, and is the gift of the mountains, sent down by the river. Thus Egypt is a mere deposit of sediment in a trough of granite and limestone. This alluvial valley is the most productive region on the globe, and has been so from time immemorial, the overflow of the river renewing the youth of the soil, and preserving its virgin richness. This remarkable river flows through a course of twelve hundred miles without receiving a single tributary stream, a fact without a parallel in geography. Who can wonder that this mighty and beneficent stream, which rescues a smiling strip of bloom and verdure from the barren wastes which border it, should occupy such a space in history and literature, should have stimulated so powerfully the curiosity of inquiring minds, and should have been regarded with idolatrous veneration by the simple-minded millions whom it fed? When, too, we recall the historical importance of Egypt, the early development of the human mind which there took place, and the monuments of its power and skill

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which still remain — sphynxes, obelisks, pyramids and temples, upon whose ponderous blocks Time has notched the flight of forty centuries, and view it all as depending upon a regular sequence of physical causes and effects, tracing its connection with those natural laws which lift the vapors from the ocean's floor, which set the dew drop in the hollow of a new blown rose, which waft along the upper currents of the air, those lazy clouds of summer, which the dreamer follows with half shut eye, we are led into a train of thoughts

> "which, aloft ascending, breathe in worlds
> To which the heaven of heavens is as a veil."

which find no resting-place short of the throne of Him of whom it is written "when he uttereth his voice, there is a multitude of waters in the heavens, and he causeth the vapors to ascend from the ends of the earth; he maketh lightnings with rain, and bringeth forth the wind out of his treasures."

The political history of Egypt affords a striking illustration of that stern law of compensation which runs through the works of Providence, which bestows nothing upon man without a price or a condition. Egypt has no natural barriers of defence; and its soft climate and luxuriant soil have no tendency to form that hardihood of soul and frame which makes such barriers unnecessary. It has consequently been the easy prey of every conqueror, who has taken a fancy to it, from Cambyses to Bonaparte.

In turning from Egypt to Greece, which next be-

came the paramount nation of the world, we find peculiar relations between the history and character of the people and the physical qualities of the country. Its situation with respect to Asia, Egypt, Italy and Sicily, made it an easy medium of communication, and gave rise to a lively interchange of the arts and commodities of life. In its proximity to Asia we see a main cause of those repeated attempts of the Persians to subdue it, which had so powerful an effect in elevating the national character, of the disastrous influence exercised by the same people upon the internal politics of Greece at the time of the Peloponnesian war, and of the Asiatic conquests projected by Philip of Macedon, and executed by the vast and comprehensive genius of his son. The peninsula of Greece is remarkable, among the countries of Europe, for those peculiarities which distinguish Europe itself from the other quarters of the globe; for the number of its natural divisions, and its extent of sea-coast compared with its surface. Though not so large as Portugal, its extent of sea-coast is greater than that of Italy, and twice as great as that of France. Peloponnesus is so embayed and indented by the sea that it has been aptly likened to the human hand, stretched out, with the fingers apart. Thus the voice of the sea was ever sounding in the ears of the Greek, and from every mountain height its blue waters were seen sparkling in the clear distance. It essentially contributed to the formation of that bold, active and enterprising spirit which characterized the people. The murmur of its waves is constantly heard in the

literature of Greece, as in that of England. The poetry of Homer is full of ocean influences. Its author must have been familiar with the sea in all its moods, and from childhood "laid his hand upon its mane," like that strong swimmer of our own age, from whom these words are taken, but who, unlike the old Greek bard, drew from the ocean not the spirit of its central repose, but its bitterness, its turbulence and its foam. The attachment of the Greeks to the sea is illustrated by an anecdote which has come down to us, of a Greek islander, who, when he was carried to see the beautiful vale of Tempe, coldly remarked, "this is well; but where is the sea?" Greece, too, was as much a land of the mountain as of the flood. It is a region of plains and hollows, lying in the laps of steep mountain ranges, which can in many places be traversed only by narrow passes, where the footing is difficult and dangerous. States lying near each other were completely isolated by mountain barriers. Hence it came that Greece was occupied by many distinct communities, differing in dialect and in civil and religious institutions, whose struggles and rivalries afforded a constant excitement to the minds of the inhabitants. This explains the fact why the history of Greece is so crowded with events, is so fruitful in political instruction, and is also one reason of the beauty and variety of its literature. Of the various dialects of Greece, no one degenerated into a vulgar or provincial *patois*, but each was a refined language, used to express the conceptions best suited to its peculiar character.

Thessaly, for instance, was an extensive alluvial plain, fertilized by the Peneus and its tributary streams, abounding in corn, cattle and horses, and inhabited by a luxuriant and self-indulgent people. The people of Bœotia, separated from Attica only by a range of mountains, were totally unlike the inhabitants of the latter country. They were the laughing stock of the lively Athenians, for their surly tempers, their sluggish brains, and their love of eating and drinking. Bœotia is composed of plains and valleys of extraordinary fertility, owing to the accumulated deposits brought down by the streams from the neighboring mountains, which also gave rise to periodical inundations and established a resemblance, on a small scale, between the Cephisus, its principal stream, and the Nile. The prevalence of moisture, however, made the air heavy and unwholesome, and the winters were long and severe. In Peloponnesus, Sparta and Messenia, separated only by a range of mountains, were constantly at war, until the former conquered the latter, and made slaves of its inhabitants. The centre of Peloponnesus was occupied by the table land of Arcadia, enclosed in an irregular ring of mountains, so knotted together that there is only one opening through which its waters escape. Arcadia was by no means that soft and gentle region which most persons associate with the name, but its soil was churlish and its climate inclement. It was inhabited by a hardy race of shepherds, marked by those traits which have always characterized mountaineers. They were brave, simple and hospitable. That familiarity with grand

and beautiful scenery, which has produced the sweet mountain melodies of Switzerland and the Tyrol, served to develop the imaginative element in the Arcadians. Among them, the sounds of the pastoral reed was first heard. Pan haunted their mountains, and upon one of their summits Mercury is said to have found the lyre. From its rude hills and bleak plains, the inspiration of pastoral poetry has ever been drawn. Arcadia and Laconia were the principal seats of the Dorians, one of the two great races by which Greece was occupied, which always retained those peculiarities which belong to agricultural and pastoral communities, which, with modifications of course, are still found in the farmers of New England, and what are called the country gentlemen of old England; a dislike of innovation, a want of perception of the ludicrous, a feeling that men who talk much are not very wise, a slow solidity of judgment, and a conviction that, after all, things are very well as they are. The position and physical character of Sparta were in unison with the characteristics of the race. It was situated in a valley, at a considerable distance from the sea, and was surrounded by lofty mountains. There was no temptation to a maritime life, as the coast of Laconia was stormy and dangerous, and had but one tolerable harbor. It was extremely difficult of access, there being but two natural passes by which it can be approached by land, a fact of much historical importance, and which essentially modifies the spirit of the Spartan boast, that no invading army was ever driven away from the banks of the Eurotas.

Turning from Laconia to Attica, we perceive a marked difference in the physical characteristics of the two countries. Attica is a peninsula of small extent, with valleys opening upon the coast, which abounded with commodious harbors, and inviting, by its position, the commerce of Asia. Its soil was light and poor, producing flowers and fragrant shrubs in abundance, and well adapted to the olive, but not of depth and body enough for the growth of wheat. Though laboriously and skilfully cultivated, its produce was never sufficient to supply the wants of its inhabitants. On the other hand, Attica had mines of silver and abundant quarries of marble. Thus the Athenians were urged to a maritime life, alike by the wealth and the poverty of their country, and they early became bold and successful navigators. The passage from Greece to Asia is rendered easy by that group of beautiful islands, which extends, like a succession of natural stepping-stones, from one continent to the other. A glance at the map suggests the obvious explanation of those relations of protection and dependence which so long existed between Athens and these islands. We see how natural it was for that powerful maritime city to bind these ocean gems into a coronet for her brow of sovereignty. Athens, by its position, was exposed to assault, and was consequently more than once captured.

There were other elements common in various degrees to the whole of the Grecian peninsula, which aided in the wonderful development of the human mind, which there took place. The air was remark-

able for its clearness and purity, as is shown by the excellent preservation in which those monuments of art are still found, which have been so fortunate as to escape the destroying hand of man. The climate was admirably suited to develop both body and mind. The winters were severe in some places, but, generally, there was warmth without heat and coolness without cold. The cold of winter was tempered by the genial sea-breezes, and the heats of summer mitigated by the bracing winds from the mountains, many of whose peaks were covered with snow during the whole year. The soil, with very few exceptions, was of that kind which stimulates and rewards labor; not of tropical luxuriance, but richly repaying the husbandman's toil. Thus all the influences that were around the ancient Greek were adapted to quicken, animate and inspire; to give muscular power and nervous sensibility; to create active minds in vigorous bodies; and there is the same analogy between the energetic and practical character of the Greek intellect, and the forms and expressions of nature in Greece, which we observe between the dreamy and speculative cast of the Oriental mind and the exhausting heats and monotonous plains of the East.

The star of empire in its western course from Greece next lighted upon Italy, a country as remarkable for its physical structure as for its history. Its form is familiar to you, and its great extent of sea-coast is obvious at a glance. Its proximity to Sicily and Africa suggests and explains many memorable events in its history. The north of Italy is

occupied by an alluvial plain of wonderful beauty and fertility, enclosed on three sides by the Alps and Appenines, and opening to the Adriatic on the fourth. Through it flows the Po, fed by innumerable streams, always kept in supply by the melting snows of the mountains. These streams bring down such quantities of fertilizing deposit, that the Po has filled up the Adriatic to such an extent, that towns, once seaports, are now several miles in the interior. When we see this lovely plain unrolled like a map at the feet of the mountains, greeting the eye of the traveller who has scaled their summits, with a glad vision of towered cities, smiling hamlets, cultivated fields and silver-winding streams, can we wonder that the tide of invasion should so often have rolled through the passes of the Alps, and that the Po should so often have been reddened with the blood of armies contending for the spoils which lay around them? Observe too how completely the whole extent of Italy is ridged and furrowed by mountains and valleys. Besides the great spinal cord of the Appenines, there are frequent outlying ranges between them and the Mediterranean; and this central range is constantly throwing out lateral spurs which start off at right angles, and pull up at the very margin of the sea, in the form of bold and wooded cliffs. This blending of the mountain and the sea explains the beauty and grandeur of Italian scenery, and has helped to make that country a land of artists, by its powerful influence upon the eye and the mind. This peculiar mountain formation divides Italy into a number of

isolated valleys, which is one great reason why the Romans were so long in conquering it, why its history during the middle ages is so sad a record of feuds and fightings, and why, since the dismemberment of the Roman empire, it has been impossible to combine the several Italian states into one homogeneous whole. The rivalries of these several states had also a powerfully stimulating effect upon the human mind, and contributed to the growth of that long array of men illustrious in arms, arts, politics, literature and science, who shed so imperishable a lustre upon the annals of modern Italy.

The country which in modern times has had the greatest power and influence, compared to the extent of its territory, is, beyond all comparison, Great Britain, and it may not be uninteresting to examine how far this is owing to physical advantages. The position of Great Britain is most favorable, being nearly in the centre of the inhabited part of the globe, as its capital is the centre and head of the commercial world. The insular character of England has had the most important influence upon its history and growth. It has protected her from those ravages of war, which have so often desolated the rest of Europe. It is now nearly eight hundred years since the people of England have seen the camp fires of a foreign army. Her coasts every where abound in sheltered harbors, and the pursuits of commerce are thrust upon her people by an inevitable necessity. Great Britain is equally favored in an agricultural point of view. It lies within the

temperate zone, and its soil is favorable to the growth of wheat and the other cereal grains, which form the staple of the food of man. A very large proportion of its surface is adapted for the purposes of tillage, and the rest is valuable as timber land or for pasturage. The climate of England, though often abused, has much to commend it. It is damp and dull, but temperate and equable, free from our sudden changes of temperature, and fierce extremes of heat and cold. The great merit of the climate of England is expressed in a saying ascribed to one of her kings, that there was no country in which it was possible to be so many days in the year, in the open air, with comfort. The dampness which is so depressing to the spirits of the delicate and the susceptible is the cause of that rich verdure which is so characteristic a feature in the scenery of England. This depth of verdure has also essentially contributed to the wonderful excellence of those breeds of cattle which are so large a part of the agricultural wealth of England. Great Britain is also remarkable for the great variety of its soil and surface compared with its extent. Within a moderate compass are found all the forms of natural beauty; coast scenery, river scenery, and mountain scenery — with lakes, valleys and plains. This has contributed to make the English such lovers of the country and of rural life. This has helped to give its literature that peculiar charm which comes from a careful study and minute observation of Nature, not in the gross, but by parcel and in detail, of her secluded charms, her fleeting expres-

sions, her airy and quick-dissolving graces, her shy, retiring moods. The poetry of England is vocal with sylvan and rural sounds; the voice of the nightingale, the note of the cuckoo, the lark's song, the ploughman's whistle, the mower's scythe, the roar of the forest, the babbling of the brook. From what other literature can four successive lines be taken which present so many fine images of sound and sight, as the following stanza from Scott:

> "Merry it is in the good green wood,
> When the mavis and merle are singing,
> When the hounds are in cry, and the deer sweep by,
> And the hunter's horn is ringing."

But neither the sea, which like an unsleeping dragon keeps watch around the coast of England, nor her variety of surface that acts so favorably upon the mind of man, nor her temperate climate, nor her productive soil, are by any means sufficient to explain her present pride of place. For this, more than to all things else, she is indebted to the wealth that is hidden in the bowels of her earth. Manufactures cannot be carried on to any considerable extent, without the power of steam or the power of falling water. The streams of England generally flow through alluvial plains, and hence the streams are navigable and the plains are fertile; but such a formation precludes the possibility of those rapid descents and precipitous falls by which the power of water may be applied to manufacturing purposes. But this deficiency has been supplied by those vast beds of coal,

which are the most striking feature in the geology of England, and the most valuable of the gifts which Providence has bestowed upon her. By the agency of her coal has been created a system of manufacturing industry, whose annual amount of productions the imagination itself can hardly grasp. Such prodigious sums fall on the ear, like the distances of the solar system, and awaken no image in the mind. The manufactures of England have been the great sources of her wealth and her power. From her beds of coal she drew the resources which enabled her to wage a successful contest with the vast capacity and colossal power of Bonaparte; and without these, the might of her guantleted hand, whose grasp is now upon all the earth, would be paralyzed, and those iron muscles wax feeble as infancy. The coal mines of England have been indirectly the cause of some of the most remarkable inventions and discoveries of modern times. Without them we should not have had the steam-engine of Watt, the power-loom of Cartwright, Arkwright's spinning-frame, and Davy's safety-lamp. None of these were stumbled upon by chance, but were the results of long and laborious trains of thought, originally commenced from a consideration of the great practical value of the desired end. No man will tear his brains to pieces in inventing a machine which, when completed, can find no work to do. The influence, direct and indirect, of the coal of England upon her policy, her legislation, and even the manners and habits of her people, is a fruitful theme, to which my limits will not permit me

to do more than allude. It has been the origin of her protective tariffs and corn laws, which have given rise to so much oral and written discussion. The comparative cheapness of fuel there has had no inconsiderable influence in the formation of those domestic virtues and fireside habits, which are found among the best parts of her people and are so agreeably reflected in her literature.

We may trace other analogies than those which have been mentioned, between the physical structure of Europe and Asia, and their history and fortunes. The natural divisions of Asia separate it into regions of immense size, occupied by nations few in number, in proportion to the vast extent of the continent. Europe, on the contrary, is parcelled off by its physical structure, into small states, with natural boundaries. Thus Asia has been peopled by races few in number, but each composed of great multitudes, so that one race cannot act powerfully upon the other. Europe is occupied by a variety of nations, unlike in their mental and physical structure, and highly stimulating in their mutual influence. This is one reason why the human mind has not only made so much more progress in Europe than in Asia, but why its forms of development have been so much more various. The expression, "the oriental mind" suggests something homogeneous and similar in all its several modifications; but under the words "European mind" we comprehend many and different forms of intellectual development. From the same cause, conquests in Asia have been far more extensive and

more permanent than in Europe. For some centuries the leading states of Europe, with very few exceptions, have preserved unaltered their boundaries, their language, and their institutions. How little change have all the conquests of Bonaparte effected in the political map of Europe. It was not without reason that this extraordinary man turned his thoughts so constantly to Asia. He always said that Sir Sydney Smith, by repulsing his attack upon Acre, had changed the current of his destiny. He well knew, for Bonaparte's visions were never without a foundation of truth, that Asia was the place for military adventurers to found kingdoms in, and not Europe.

These topics, drawn from the physical structure of the Old World, might be expanded, and others suggested, but I must hasten to our own country, and devote the period that remains, to a consideration of some of its marked physical peculiarities. Here we have not all the elements of comparison which the Old World supplies, owing to the recent occupation of the New World by the European race. The years of God are the centuries of man, and it is but yesterday since we broke with our axes the silence of this western wilderness. We must speculate more and chronicle less; dwell more in the future and less in the past. The rapid growth of our country is alone a proof of uncommon physical advantages. As a general rule the population of a country depends upon the variety of occupation which it can supply to its inhabitants, and this depends ultimately upon the gifts of nature. In this respect we are

highly favored, as our country has great commercial, agricultural and manufacturing capacities. As to foreign commerce, a glance at our immense line of sea-coast supersedes the necessity of any argument. In regard to inland commerce, our advantages are still greater, for the most remarkable physical feature of our country is the number and length of its navigable streams, whose waters flow and circulate like the blood in the veins and arteries of the body, and with the same healthful effects. The advantages, direct and indirect, material and moral, of this boon of Providence, are infinite and incalculable. Arabia, for instance, is about the size of the United States east of the Mississippi; but imagine the different fortunes that would await us were our country as ill supplied with streams as Arabia. The great extent of the United States, and its variety of structure, lead naturally to a diversity of employments in its inhabitants. The greater part of New England is, geologically speaking, primary in its character. In countries of this formation the shores are bold, and the water along the coast is deep. The sources of the streams are high above their mouths, and the streams themselves are of moderate length; they consequently do not flow gently through extensive plains, but leap down terraces and inclined plains. To borrow a familiar illustration, they run down stairs in order to get to the sea. Now it is the downward passage of water from one level to another which produces water power. In primary countries, the soil is usually thin and poor,—requiring both in-

dustry and intelligence to make them productive. Thus by its structure New England is led rather to commerce and manufactures, than agriculture; or rather a smaller proportion of its inhabitants is induced to follow agricultural pursuits than in most countries. The want of great natural fertility in the soil, too, is undoubtedly one element in the moral and intellectual elevation of the farming population of New England, virtue and labor being linked together in the plan of Providence by such indissoluble ties. The climate of New England is severe, and tends to an undue development of the nervous system, but on the whole is not unfavorable to health or long life in those who live wisely and not too fast. Our winters are long, but the heat of summer makes up for its brief stay, and the winters themselves are valuable for the leisure they afford for intellectual culture, thus furnishing another illustration in addition to that drawn from the character of our soil, of the great law of compensation by which God is often most generous where he most denies.

In turning from the North to the extreme South, we find a very different geological structure, and consequently different physical features. The coast is low and sandy, the shores not bold, and the harbors indifferent. The surface of the country is not marked by great irregularities, but there is a predominance of plains, composed of productive soil, through which the streams flow with a lazy current. Hence, agriculture is, of necessity, the chief occupation, and the paramount interest of men. Thus in the differ-

ent physical features of the North and South, we see one cause of their clashing opinions on the subject of a protective tariff, and also one reason why, in such a conflict, each should be prepared to yield something. In the exclusively agricultural character of our extreme Southern region, we can also trace an element of difficulty in that which is the great problem of our age, the bringing of the African race out of the house of bondage.

The middle region is more favored than either of the extremes. There are ample facilities for foreign commerce, large tracts of fertile soil, unbounded stores of mineral wealth, abundant water power, and a fine climate. What more can man ask from Heaven than these. There is hardly on this globe a region capable of sustaining a denser population, than the strip of land which lies between the Blue Ridge and the Allegany mountains, extending through Pennsylvania and Virginia, and comprising parts of New York, Tennessee and the Carolinas. It is the great wheat-growing region of our country. It has also immense fields of anthracite coal and abundant iron mines. No one can look forward without deep interest to the future fortunes of this highly favored zone; blessed with the richest of soils, vaulted by the brightest and bluest of skies, fanned by the untiring wing of the mountain breeze, and with mineral wealth in the bowels of its earth more valuable than the gems of Golconda or the gold of Peru. What patriot heart will refuse to join the fervent aspiration, that man may not mar what God has made so glorious.

The state of Pennsylvania may be taken as a fair type of the whole region occupied by the Middle States. It has an easy and safe access to the sea, a large proportion of fertile soil and incalculable mineral wealth. There is more coal in this state alone, than in all Europe, including England. All these natural advantages are turned to the best account by a judicious system of internal improvement. In looking at the gifts of Heaven so bounteously showered upon this state on the one hand, and at her shuffling, shabby, dishonest and cowardly conduct in regard to her public debt, on the other hand, can we wonder that the loud hiss of indignant Europe should be directed against a commonwealth so rich in resources, so poor in self-respect, not to say common honesty.*

There is one curious fact in regard to our country which shows how large a share the geological structure of a region has in determining the chief seats of its population. Along the coasts of New England, the sea beats against a rugged wall of primary rocks, but south of New York, this formation gives place to a maritime low land. But the original line is con-

* This, it will be observed, was written more than a year ago. Since then, Pennsylvania has done something to lighten the load of obloquy which rested upon her, but I leave what I have written, as a record of the feeling which the pecuniary delinquency of that state awakened in every well-wisher of our common country. Whatever may be the future course of Pennsylvania, the past cannot be undone. The injury which she has inflicted upon our institutions and the cause of liberty all over the world, can be but partially atoned for, should she hereafter meet with punctuality all her engagements. *January*, 1846.

tinued in a rocky ledge which seems to have been the ancient boundary of the ocean, in the Middle and Southern States. This may be traced by the rapids or falls first reached in ascending the rivers from the sea, from the Hudson to the Mississippi, at a distance of from fifty to a hundred miles from the coast. It will easily be perceived that such a point would be the most eligible position for a settlement, as it would have access to the sea, and also would command the navigation of the back part of the stream until the next steppe, or terrace was reached. And in point of fact, this line, which also marks the limits of tide water, may be traced by the flourishing towns which have sprung up along its course, as Trenton, Baltimore, Georgetown, Alexandria and Washington, Richmond and Fredericksburg, Columbia, Augusta, and Milledgeville. The low plain lying east of this ledge is supposed to have been at some former period a part of the bed of the ocean and to have been uplifted by a strong submarine force.

Of late years, men are beginning to speak, with more or less of freedom, of what was once almost treason to hint at, a dissolution of the union. There are so many aspects more important, in which this subject may be considered, that it is not to be wondered that the geographical difficulties have been adverted to; and indeed they who are most clamorous on this head, seldom condescend to notice its practical elements at all, as they act exclusively from their sensibilities and reason exclusively from their imaginations. In the United States we have no great natural divisions,

separating us into distinct communities, a peculiarity which furnishes a strong argument in favor of our keeping together, as it would greatly increase the evils consequent upon a dissolution of our political union. Divide where we may, we should leave long and exposed lines of frontier, with no natural walls or gulfs of division. Supposing that men hereafter are to be governed, to the same extent or any thing like it, as in times past, by their selfish passions, I I need not say how large an element of mischief this fact would supply. We have had a specimen of the social and political action of a long exposed frontier, in the feverish uneasiness into which our country was recently thrown, growing out of our relations with Great Britain. Had there been a range of snow covered mountains between us and the Canadas, we should have had no burning of the Caroline, and no trial of McLeod.

I have spoken of our facilities of inland navigation as being our chief physical or geographical boon. One of our great wants is the absence of mountains so high as to be always covered with snow. The gradual and uniform melting of the snows has an important effect upon the rivers, in keeping their streams moderately full, and obviating the ill effects of long protracted drought. In consequence of this want, our rivers, especially our western rivers, are hardly ever at that point of elevation most useful to man, but are either so swollen by rains and the melting of the winter's snow as to be doing mischief; or so dried by the heats of summer as to be hardly navigable.

Another advantage which we enjoy, and for which we are mainly indebted to the great Apalachian chain, is the absence of deserts. There are no considerable tracts of land, wholly unfitted for agricultural purposes, within the limits of the United States. Between us and the Pacific there is an extensive region of this kind, of about eight hundred miles in length and six hundred miles in breadth, including the Rocky Mountains which run through it; a sandy and rocky tract, not capable of supporting a stationary agricultural population, and only to be safely traversed by persons in considerable numbers. This region lies between us and the Oregon territory. Of the validity of our claims to this territory I have not carefully informed myself, but all past history gives its testimony against the probable success of any attempt to combine into one political whole, two great members thus disjoined. Nature interposes her veto, by rearing her rocky walls, and spreading out her dreary wastes of separation. She forbids the bans of such a union. And in this point of view alone, I should hold our claims upon the Oregon to be dearly maintained at the cost of one dollar of treasure, or one drop of blood.

The physical structure of our country, viewed in connection with its probable future fortunes, presents a vast field of speculation and inquiry, of which I have hardly crossed the threshold. We have a goodly heritage; the lines have fallen to us in pleasant places. We are not doomed to waste the noble impulses of patriotism upon a few bleak mountains

and rocky coasts, but we have a country to love and to adorn, which is commensurate with the most exacting desires of the human soul. We are here trying new experiments in social life, upon the grandest scale, and under the most favorable circumstances. We have cast aside alike the toys and the impediments of feudal times. Our soil will not grow the king, the prelate, or the noble, but we hope and trust that the plant, man, is here destined to reach a perfection unknown before. What is to be the future of this magnificent country? On this point, mournful voices are already beginning to be scattered upon the air. Men, and wise men too, are predicting evil issues. It may be so. It may be that our experience is to add to the warnings and admonitions of history; that the voice of the past is to sigh through the shattered walls and broken arches of our social fabric. It may be that our sun is to go down in blood; that violence is to rend asunder the chain of our union and scatter its links in wild disorder; that our soil is to be drenched with fraternal blood; that the pleasant gardens of our prosperity are to be uprooted by the whirlwinds of anarchy, or iron-bound by the polar frost of despotism. It will be so if our material civilization is always to keep far in advance of our mental and moral cultivation; if prosperity is to make us selfish, if wealth is to make us hard-hearted, if power is to make us tyrannous. But not thus would I cast the horoscope of our country's fortunes. There are two great houses in the world — the house of hope and the house of fear; far be from me and my friends

the badges and the livery of that latter house. I will not believe that the life of nations is like the life of trees; that by an inevitable law, they too, have their periods of growth, maturity, and decline; but I hold that it is sin alone that makes a people weak, and wickedness that makes them old, and that in the fear of God, and the keeping of his commandments, there is perpetual youth. Upon us, and those who are to come after us; upon the young especially, who are ever the patriot's hope and the good man's trust, and upon those to whom the training of the young is entrusted, whether as parents or teachers, does this great responsibility rest. The life of man should here reflect the spirit of our institutions, and be cast in a mould of greatness analogous to the physical features of our country. It should be grave, simple, earnest and manly. It should be dedicated to high purposes and governed by a spirit of moral thoughtfulness. There is no place here for the idler, the trifler, the scoffer and the voluptuary. Every man's life is of consequence as forming a part of the life of the state.

The last signal made by the British admiral on the morning of the battle of Trafalgar, was in words which have become historical and immortal: "England expects every man to do his duty." Would that we could carve upon our hearts the spirit of these words; for though the storm-cloud of battle does not lower upon our path, yet peace has its dangers and its trials no less than war. Would that each of us, when our country's flag is floating upon the breeze, could see with the mind's eye, written in letters of

living light upon its ample folds, "America expects every man to do his duty." Would that the contemplation of our present and our future might inspire us, not only with patriotic pride and gratitude, but with a firm resolve to set upon the brow of our country a more than regal coronet, with the virtues of her children for its sparkling gems. With this spirit and this resolve, we shall construct her prosperity from elements as indestructible and unchanging as the laws of falling bodies, or the impulses of maternal love.